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ABSTRACT

This report provides statistical information on faculty in colleges and universities collected through a national survey conducted in 1987-88 by the National Center for Education Statistics. The data were collected from institutional academic officers, department chairpersons, and faculty members. This report focuses on five topics around which the five chapters are organized: (1) "Patterns of Faculty Separation and Retirement" (full-time regular faculty only); (2) "Faculty Activities and Workload" (workload and time allocation, productivity, and job satisfaction); (3) "Faculty Compensation" (monetary compensation and employee benefits); (4) "Women and Minorities in Higher Education (information on type and control of institution, program area, highest degree, employment status, age, employment experience, workload, compensation, job attitudes); and (5) "Part-Time Faculty in Higher Education" (demographic data, academic background, experience, workload and activities, compensation and benefits, and job attitudes). Each chapter constitutes a report offering background, highlights of the findings, the data tables themselves and a summary. The document also includes over 50 references, and appendixes containing technical notes, standard error tables and the survey instrument. (JB)

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Statistical Analysis Report August 1991

1988 National Survey
of Postsecondary Faculty (NSOPF–88)

Profiles of Faculty in Higher Education Institutions, 1988

Contractor Report

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1988 National Survey
of Postsecondary Faculty (NSOPF-88)

Profiles of Faculty in Higher Education Institutions, 1988

Contractor Report

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National Center for Education Statistics

"The purpose of the Center shall be to collect, and analyze, and disseminate statistics and other data related to education in the United States and in other nations."—Section 406(b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e–1).

August 1991

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Foreword

Instructional faculty in colleges and universities have a crucial role in our society. They are teachers, researchers, and resource persons. They affect higher education's public service function. They make a significant contribution to the Nation's technological advances. For this reason, it is little wonder that there are many national, state, and institutional-level issues surrounding this unique population. Yet, very little is known about them. Very few recent national studies have been conducted to collect data beyond the total counts and average salaries of full-time faculty.

To fill the information gap, the National Center for Education Statistics (NCES) in the Office of Educational Research and Improvement of the U.S. Department of Education established a faculty study in 1987. The first cycle of the study, completed in 1988, collected data on faculty and faculty issues from three sources: institutional academic officers, department chairpersons, and faculty members. The study is to be repeated again in the 1992-3 school year.

This report is one in a series of publications on faculty to be released by NCES. The information presented in this report primarily comes from faculty themselves and focuses on five topics: retirement and separation, activities and workload, compensation, women and minorities, and part-time faculty.

We hope that the report will stimulate discussions on faculty issues. We also hope it will encourage further in-depth analyses of the data provided by this study.

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Acting Associate Commissioner
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We are very appreciative of the significant contributions provided by Mary Hancock and Cynthia Williamson, who had major project responsibilities during the data collection, data processing, and analysis programming activities. We also are grateful for the ongoing support and guidance provided by our project supervisor at SRI, Marian Stearns.

Also, we wish to thank the members of our technical review panel, whose knowledge of and various perspectives on the study issues contributed importantly to both the richness of the study and its relevance to the higher education community. Finally, our gratitude is extended to the thousands of individuals who participated in the study, including institutional coordinators, administrators, department chairpersons, and faculty members. Clearly, the study could not have been completed without their cooperation.

Highlights

Patterns of Faculty Separation and Retirement

- In 1988, the NSOPF asked faculty about their plans over the next three years. Seven percent of the full-time regular faculty considered it very likely that they would retire within the next three years, and 15 percent thought that they would pursue a different full-time job.
- Approximately one-third of the faculty anticipated that they would retire before age 65, and 49 percent thought they would stop teaching at the postsecondary level before age 65.
- Twenty-eight percent of the higher education institutions with tenure systems had offered optional early or phased retirement at some time during the three years before the study.

Faculty Activities and Workload

- During the 1987 fall term, full-time faculty averaged 46 hours per week at the academic institution, 4 hours per week on other paid activities, and 3 hours per week providing unpaid professional services--a total of 53 hours per week.
- Although nontenured faculty spent an average of 55 hours per week at work, tenured faculty were not far behind in the number of hours worked per week. Tenured faculty spent an average of 53 hours per week at work.
- On average, full-time regular faculty spent 56 percent of their time on teaching activities, 16 percent on research, 13 percent on administration, and 16 percent on other activities. Faculty in research and doctoral institutions spent more time than average on research, while those in public two-year colleges spent almost no time on this activity.
- Associate and full professors spent only slightly less time on teaching activities than assistant professors, and this was not made up by a greater amount of time on research but rather by more time on administrative activities.
- During the two years preceding the survey, full-time regular faculty produced an average of 2.0 articles in refereed journals; 0.6 books, book chapters, and monographs; 0.6 book reviews; 1.5 other reports; and 4.3 professional presentations and exhibitions. The NSOPF data provided no evidence of a decline in the number of publications or other professional activities among faculty of higher rank.

Faculty Compensation

- For the 1987 calendar year, the mean total earned income for full-time regular faculty in higher education institutions was $48,701. Approximately 81 percent of this, or $39,439 was accounted for by the individual's basic salary from the institution.
- The average faculty member earned $1,655 in consulting income, and although the amount was considerably higher in major research universities, consulting income accounted for less than 10 percent of total income for faculty in research universities.
- Among full-time faculty, those in private research universities had the highest average total income ($74,732). Faculty in public research universities also had higher than average total income ($58,309). Those in public comprehensive, public two-year, and, liberal arts institutions had lower than average total incomes, earning $42,965, $38,539, and $32,740, respectively.
- In four-year institutions, full-time faculty's average base salary was $41,540. Faculty in health sciences and engineering averaged significantly higher base salaries--$56,328 and $45,387, respectively. Full-time faculty in fine arts, education, humanities, and social sciences had significantly lower base salaries, averaging between $33,534 and $37,209.
- Across all higher education institutions, the number of publications produced by faculty during their career was positively related to total earned income, basic salary, and consulting income.
- Unlike publications, teaching had an inverse relationship with compensation. Across all institutions, faculty whose teaching activities comprised less than 50 percent of their workload received substantially higher total income than those who spent more than 50 percent of their time teaching ($62,093 vs. $40,754).

Women and Minorities in Higher Education

- Across all higher education institutions, women comprised 27 percent of full-time regular faculty.
- Women represented a lower than average percentage of full-time faculty at public and private research institutions (21 and 19 percent, respectively), where the salaries were higher than average; and women represented a higher than average percentage of full-time faculty at public two-year institutions (38 percent), where salaries were lower than average.
- Minorities comprised 11 percent of the full-time regular faculty with few deviations across institutional type or program area.

- Among full-time faculty, women received less income from all sources than their male counterparts. For example, compared to men, women received 25 percent less base salary ($42,322 versus $31,755) and 32 percent less total income ($53,318 versus $36,398). Income disparities persisted even when men and women were at the same academic rank and in the same type of institution, or at the same academic rank and in the same program area.

- Minority faculty received the same basic salary and total income, on average, as their nonminority counterparts in each institutional sector and in each program area.

Part-time Faculty in Higher Education

- Part-time faculty were considerably less likely than their full-time counterparts to have an advanced degree, although (as with full-timers) the percentage with a doctorate or first professional degree was relatively high at doctoral institutions and relatively low at public two-year institutions.

- The vast majority of part-time faculty were hired in non-tenure-track positions and in the non-professorial ranks of instructor, lecturer, and so on. This was essentially the reverse of the situation for full-time faculty.

- Contrary to the view that part-time faculty constantly change allegiance and source of employment, the average part-time faculty member had been employed at the same institution for 6.5 years.

- Only 16 percent of all part-time faculty aspired to a full-time faculty position.

- Part-time faculty were more likely than full-time faculty to be satisfied with their job overall, their workload, and their mix of responsibilities, and equally likely to be satisfied with their salary. However, part-time faculty were considerably less satisfied than full-time faculty with their benefits and job security.

Table of Contents

Page

Foreword iii

Acknowledgments iv

Highlights v

Glossary xxiii

Introduction 1

Chapter 1: Patterns of Faculty Separation and Retirement 5

- Background 7
- Demographic Characteristics 9
- Retirement 17
- Other Forms of Separation 29
- Projections to the Year 2000 37
- Summary 41

Chapter 2: Faculty Activities and Workload 43

- Background 45
- Workload 47
- Faculty Productivity 61
- Attitudes about Workload and Time Allocation 73
- Summary 83

Chapter 3: Faculty Compensation 85

- Background 87
- Compensation and Employee Benefits, by Institutional Characteristics 89
- Demographic and Academic Characteristics Related to Compensation 101
- Compensation and Reward Structure 115
- Compensation and Job Satisfaction 123
- Summary 127

Page

Chapter 4: Women and Minorities in Higher Education 129

Background 131
The Distribution of Higher Education Faculty
by Gender and Race/Ethnicity 133
Differences between Male and Female Faculty 139
Differences between Nonminority and Minority Faculty ... 161
Summary 173

Chapter 5: Part-Time Faculty in Higher Education 175

Background 177
Dimensions of the Part-Time Higher Education Faculty ... 179
Demographic Characteristics of Part-Time Faculty 183
Characteristics of Part-Time Faculty Appointments 189
Characteristics of the Work 195
Compensation and Benefits 199
Attitudes about the Job 203
Summary 207

References 209

Appendices

Appendix A: Technical Notes 215

Overview 217
Sampling Strategy 217
Weight Calculations 222
Data Collection 222
Data Processing 222
Accuracy of Estimates 223

Appendix B: Standard Error Tables 225

Appendix C: The Faculty Questionnaire 233

11

Page

Text Tables

1.1 Age distribution of full-time regular faculty: Fall 1987 11

1.2 Percentage of full-time regular faculty aged 55 or older, by type and control of institution: Fall 1987 11

1.3 Percentage of full-time regular faculty aged 55 or older in four-year institutions, by program area: Fall 1987 12

1.4 Percentage of full-time regular faculty aged 55 or older, by academic rank and by tenure status: Fall 1987 12

1.5 Age distribution of regular full-time faculty, by gender and minority/nonminority status: Fall 1987 13

1.6 Percentage distribution of full-time regular faculty, by tenure status and type and control of institution: Fall 1987 14

1.7 Percentage distribution of full-time regular faculty in four-year institutions, by tenure status and program area: Fall 1987 . 15

1.8 Retirement of full-time regular and tenured faculty in 1986-87, by type and control of institution 20

1.9 Percentage of higher education institutions that offered incentives for early or phased retirement during the past 3 years, by type and control of institution: Fall 1987 20

1.10 Percentage of full-time regular faculty who reported that they were "very likely" to retire in the next three years, by type and control of institution: Fall 1987 21

1.11 Percentage of full-time regular faculty in four-year institutions who reported that they were "very likely" to retire in the next three years, by program area: Fall 1987 22

1.12 Percentage of full-time regular faculty who reported that they were "very likely" to retire in the next three years, by academic rank and tenure status: Fall 1987 23

1.13 Percentage of full-time regular faculty who reported that they were "very likely" to retire in the next three years, by age group: Fall 1987 23

1.14 Age at which full-time regular faculty are likely to retire from paid employment: Fall 1987 24

1.15 Age of expected retirement for full-time regular faculty, by type and control of institution: Fall 1987 25

Page

1.16 Percentage of full-time regular faculty who expected to retire at each of the various ages, by gender: Fall 1987 26

1.17 Age at which full-time regular faculty are likely to stop teaching at the postsecondary level: Fall 1987 26

1.18 Percentage of full-time regular faculty who are likely to stop teaching at the postsecondary level before they retire, by current age group: Fall 1987 27

1.19 Percentage of full-time regular and tenured faculty who departed between the 1986 and 1987 fall terms for reasons other than retirement, by type and control of institution: Fall 1987 31

1.20 Reasons for departure among those tenured faculty who departed between the 1986 and 1987 fall terms for reasons other than retirement: Fall 1987 31

1.21 Percentage of full-time regular faculty who reported that they were "very likely" to pursue (seek or accept) a different full-time job during the next three years, by academic rank and by tenure status: Fall 1987 32

1.22 Percentage of full-time regular faculty who reported that they were "very likely" to pursue (seek or accept) a different full-time job during the next three years, by age group: Fall 1987 ... 32

1.23 Percentage of full-time regular faculty who reported that they were "very likely" to pursue (seek or accept) a different full-time job in the next three years, by type and control of institution: Fall 1987 33

1.24 Percentage of full-time regular faculty in four-year institutions who reported that they were "very likely" to pursue (seek or accept) a different full-time job in the next three years, by program area: Fall 1987 34

1.25 Mean job satisfaction ratings of full-time regular faculty who reported that they were "not at all likely," "somewhat likely," and "very likely" to pursue (seek or accept) a different full-time job in the next three years: Fall 1987 35

1.26 Employment sector choices of the 14 percent of full-time regular faculty who were very likely to pursue a new full-time job: Fall 1987 35

1.27 Percentage of full-time regular faculty who will reach age 65, who expect to retire, and who expect to stop teaching at the postsecondary level between 1987 and 2000, by tenure status: Fall 1987 39

Page

1.28 Percentage of full-time regular faculty who will reach age 65, who expect to retire, and who expect to stop teaching at the postsecondary level between 1987 and 2000, by type and control of institution: Fall 1987 39

1.29 Percentage of full-time regular faculty in four-year institutions who will reach age 65, who expect to retire, and who expect to stop teaching at the postsecondary level between 1987 and 2000, by program area: Fall 1987 40

1.30 Percentage of full-time regular faculty who will reach age 65, who expect to retire, and who expect to stop teaching at the postsecondary level between 1987 and 2000, by gender and by minority/nonminority status: Fall 1987 40

2.1 Mean number of hours worked by full-time regular faculty, by type and control of institution: Fall 1987 51

2.2 Mean number of hours worked by full-time regular faculty in four-year institutions, by program area: Fall 1987 52

2.3 Mean number of hours worked by full-time regular faculty, by academic rank: Fall 1987 53

2.4 Mean number of hours worked by full-time regular faculty in four-year institutions, by academic rank: Fall 1987 53

2.5 Mean number of hours worked by full-time regular faculty in all higher education institutions, by tenure status: Fall 1987 .. 54

2.6 Mean number of hours worked by full-time regular faculty in four-year institutions, by tenure status: Fall 1987 54

2.7 Percentage of time spent on various activities by full-time regular faculty, by type and control of institution: Fall 1987 .. 55

2.8 Percentage of time spent on various activities by full-time regular faculty in four-year institutions, by program area: Fall 1987 56

2.9 Percentage of time spent on various activities by full-time regular faculty in all higher education institutions, by academic rank: Fall 1987 57

2.10 Percentage of time spent on various activities by full-time regular faculty in four-year institutions, by academic rank: Fall 1987 57

2.11 Percentage of time spent on various activities by full-time regular faculty, by tenure status: Fall 1987 58

Page

2.12 Percentage of time spent on various activities by full-time regular faculty in four-year institutions, by tenure status: Fall 1987 59

2.13 Mean number of publications by full-time regular faculty during the last two years, by type of publication and by type and control of institution: Fall 1987 64

2.14 Mean number of publications by full-time regular faculty during their career, by type of publication and type and control of institution: Fall 1987 65

2.15 Mean number of publications by full-time regular faculty in four-year institutions during the last two years, by type of publication and program area: Fall 1987 66

2.16 Mean number of publications by full-time regular faculty in four-year institutions during their career, by type of publication and program area: Fall 1987 67

2.17 Mean number of publications by full-time regular faculty during the last two years, by type of publication and academic rank: Fall 1987 68

2.18 Mean number of publications by full-time regular faculty during their career, by type of publication and academic rank: Fall 1987 68

2.19 Mean number of publications by full-time regular faculty during the last two years, by type of publication and tenure status: Fall 1987 69

2.20 Mean number of publications by full-time regular faculty during their career, by type of publication and tenure status: Fall 1987 69

2.21 Mean number of classroom hours and student contact hours of full-time regular faculty, by type and control of institution: Fall 1987 70

2.22 Mean number of classroom hours and student contract hours of full-time regular faculty in four-year institutions, by program area: Fall 1987 71

2.23 Mean number of classroom hours and student contact hours of full-time regular faculty, by academic rank: Fall 1987 72

2.24 Mean number of classroom hours and student contact hours of full-time regular faculty, by tenure status: Fall 1987 72

Page

2.25 Percentage distribution of satisfaction ratings of full-time regular faculty concerning their job overall and their workload: Fall 1987 75

2.26 Mean number of hours worked by full-time regular faculty, by satisfaction with the workload: Fall 1987 75

2.27 Mean number of hours worked by full-time regular faculty, by satisfaction with the job overall and type and control of institution: Fall 1987 76

2.28 Percentage of full-time regular faculty who would like to do less, the same amount, or more of various kinds of work activities: Fall 1987 77

2.29 Percentage of full-time regular faculty who would like to do less, the same amount, or more research, by type and control of institution: Fall 1987 78

2.30 Percentage of full-time regular faculty who would like to do less, the same amount, or more teaching, by type and control of institution: Fall 1987 79

2.31 Percentage of full-time regular faculty who would like to do less, the same amount, or more advising students, by type and control of institution: Fall 1987 80

2.32 Percentage of full-time regular faculty who would like to do less, the same amount, or more service activities, by type and control of institution: Fall 1987 81

2.33 Percentage of full-time regular faculty who would like to do less, the same amount, or more administration, by type and control of institution: Fall 1987 82

3.1 Mean income for full-time regular faculty, by source of income: Fall 1987 94

3.2 Mean income for full-time regular faculty, by source of income and type and control of institution: Fall 1987 95

3.3 Percentage of full-time regular faculty who reported having each of several specified types of employee benefits, by type and control of institution (Part I): Fall 1987 96

3.4 Percentage of full-time regular faculty who reported having each of several specified types of employee benefits, by type and control of institution (Part II): Fall 1987 97

Page

3.5 Percentage of full-time regular faculty who reported having each of several specified types of employee benefits, by type and control of institution (Part III): Fall 1987 98

3.6 Percentage of higher education institutions with flexible benefits plans for full-time regular faculty, by type and control of institution: Fall 1987 99

3.7 Percent of full-time faculty in unionized institutions and mean income for full-time regular faculty, by source of income, type and control of institution, and union status of institution: Fall 1987 100

3.8 Mean income for full-time regular faculty, by source of income and age of faculty: Fall 1987 105

3.9 Mean income for full-time regular faculty, by source of income and tenure status: Fall 1987 106

3.10 Mean income for full-time regular faculty, by source of income and academic rank: Fall 1987 107

3.11 Mean income for full-time regular faculty, by source of income, academic rank, and type and control of institution: Fall 1987 ... 108

3.12 Mean income for full-time regular faculty, by source of income, type and control of institution, and time in current rank: Fall 1987 109

3.13 Mean years in current rank and correlation (r) between time in rank and basic salary, by academic rank: Fall 1987 110

3.14 Mean income for full-time regular faculty, by source of income, type and control of institution, and number of years faculty member had been at the institution: Fall 1987 111

3.15 Mean years at the institution and correlation (r) between time at the institution and basic salary, by academic rank: Fall 1987 112

3.16 Mean income for full-time regular faculty, by source of income, type and control of institution, and highest degree: Fall 1987 .. 113

3.17 Mean income for full-time regular faculty in four-year institutions, by source of income and program area: Fall 1987 ... 114

3.18 Mean income for full-time regular faculty, by source of income, type and control of institution, and number of publications: Fall 1987 117

Page

3.19 Mean income for full-time regular faculty in four-year institutions, by source of income, academic rank, and number of publications: Fall 1987 118

3.20 Mean income for full-time regular faculty in all institutions, by source of income, type and control of institution, and percentage of time spent on teaching activities: Fall 1987 119

3.21 Mean income for full-time regular faculty in four-year institutions, by source of income, academic rank, and percentage of time spent on teaching activities: Fall 1987 120

3.22 Mean income for full-time regular faculty in all institutions, by source of income, type and control of institution, and principal investigator status: Fall 1987 121

3.23 Mean income for full-time regular faculty in four-year institutions, by source of income, academic rank, and principal investigator status: Fall 1987 122

3.24 Percentage of full-time regular faculty with different levels of satisfaction with their job overall, their benefits, and their salary, by academic rank: Fall 1987 125

3.25 Mean total earned income and basic salary for full-time regular faculty, by academic rank, satisfaction with the job overall, and satisfaction with salary: Fall 1987 126

4.1 Percentage distribution of full-time regular faculty, by gender and type and control of institution: Fall 1987 134

4.2 Percentage distribution of full-time regular faculty, by race/ethnicity and type and control of institution: Fall 1987 135

4.3 Percentage distribution of full-time regular faculty in four-year institutions, by gender and program area: Fall 1987 136

4.4 Percentage distribution of full-time regular faculty in four-year institutions, by race/ethnicity and program area: Fall 1987 137

4.5 Percentage of male and female full-time regular faculty who had a doctorate or first-professional degree, by type of institution: Fall 1987 146

4.6 Percentage distribution of male and female full-time regular faculty, by academic rank and type of institution: Fall 1987 147

Page

4.7 Percentage distribution of male and female full-time regular faculty who had a doctorate or first-professional degree, by academic rank and type of institution: Fall 1987 147

4.8 Percentage distribution of male and female full-time regular faculty, by tenure status and type of institution: Fall 1987 148

4.9 Percentage distribution of male and female full-time regular faculty who had a doctorate or first-professional degree, by tenure status and type of institution: Fall 1987 148

4.10 Mean age of male and female full-time regular faculty, by academic rank and type of institution: Fall 1987 149

4.11 Mean number of years since the highest degree for male and female full-time regular faculty, by academic rank and type of institution: Fall 1987 149

4.12 Mean number of years at the institution for male and female full-time regular faculty, by academic rank and type of institution: Fall 1987 150

4.13 Mean number of years in current academic rank for male and female full-time regular faculty, by academic rank and type of institution: Fall 1987 150

4.14 Mean number of hours worked by male and female full-time regular faculty, by type of work, academic rank, and type of institution: Fall 1987 151

4.15 Percentage of time spent on various activities by male and female full-time regular faculty, by academic rank and type of institution: Fall 1987 152

4.16 Percentage of time spent on various activities by male and female full-time regular faculty in four-year institutions, by academic rank and program area: Fall 1987 153

4.17 Percentage of male and female full-time regular faculty who were principal investigators during the 1987 fall term, by academic rank and type of institution: Fall 1987 154

4.18 Percentage of male and female full-time regular faculty who were principal investigators during the 1987 fall term in four-year institutions, by academic rank and program area: Fall 1987 . 155

4.19 Mean number of refereed articles, books, and chapters published in the last two years by male and female full-time regular faculty, by academic rank and type of institution: Fall 1987 156

Page

4.20 Mean income of male and female full-time regular faculty, by type of income, academic rank, and type of institution: Fall 1987 157

4.21 Mean income of male and female full-time regular faculty in four-year institutions, by type of income, academic rank, and program area: Fall 1987 158

4.22 Percentage of male and female full-time regular faculty who were somewhat or very satisfied with various dimensions of their job, by academic rank and type of institution: Fall 1987 .. 159

4.23 Percentage of nonminority and minority full-time regular faculty in four-year institutions with a doctorate or first-professional degree, by type of institution: Fall 1987 164

4.24 Percentage distribution of nonminority and minority full-time regular faculty in four-year institutions, by academic rank and type of institution: Fall 1987 164

4.25 Percentage distribution of nonminority and minority full-time regular faculty in four-year institutions, by tenure status and type of institution: Fall 1987 165

4.26 Mean age of nonminority and minority full-time regular faculty in four-year institutions, by academic rank and type of institution: Fall 1987 165

4.27 Mean number of years since the highest degree of nonminority and minority full-time regular faculty in four-year institutions, by academic rank and type of institution: Fall 1987 166

4.28 Mean number of years at the institution for nonminority and minority full-time regular faculty in four-year institutions, by academic rank and type of institution: Fall 1987 166

4.29 Mean number of years in current academic rank for nonminority and minority full-time regular faculty in four-year institutions, by academic rank and type of institution: Fall 1987 167

4.30 Mean number of hours worked by nonminority and minority full-time regular faculty in four-year institutions, by type of work, academic rank, and type of institution: Fall 1987 168

4.31 Percentage of time spent on various activities by nonminority and minority full-time regular faculty in four-year institutions, by type of institution: Fall 1987 169

4.32 Percentage of nonminority and minority full-time regular faculty who were principal investigators during the 1987 fall term, by type of institution: Fall 1987 169

Page

4.33 Mean number of refereed articles, books, and chapters published in the last two years by nonminority and minority full-time regular faculty in four-year institutions, by type of institution: Fall 1987 170

4.34 Mean income of nonminority and minority full-time regular faculty in four-year institutions, by type of income and type of institution: Fall 1987 170

4.35 Percentage of nonminority and minority full-time regular faculty in four-year institutions who were somewhat or very satisfied with various dimensions of their job, by type of institution: Fall 1987 171

5.1 Number and distribution of higher education instructional faculty (in thousands), by faculty employment status and type of institution: Fall 1987 180

5.2 Percentage of higher education institutions with different types of part-time and full-time faculty, by type of institution: Fall 1987 181

5.3 Percentage distribution of part-time faculty and full-time regular faculty, by age and type of institution: Fall 1987 185

5.4 Percentage distribution of part-time faculty and full-time regular faculty, by gender and type of institution: Fall 1987 ... 185

5.5 Percentage of part-time faculty and full-time regular faculty who were of minority racial or ethnic origin, by type of institution: Fall 1987 186

5.6 Percentage of part-time faculty and full-time regular faculty who were married, by type of institution: Fall 1987 186

5.7 Percentage distribution of part-time faculty and full-time regular faculty, by highest degree and type of institution: Fall 1987 187

5.8 Percentage distribution of part-time faculty and full-time regular faculty, by academic rank and type of institution: Fall 1987 191

5.9 Percentage distribution of part-time faculty and full-time regular faculty, by tenure status and type of institution: Fall 1987 191

5.10 Percentage distribution of part-time faculty and full-time regular faculty, by length of appointment and type of institution: Fall 1987 192

Page

5.11 Mean number of years at this institution for part-time faculty and full-time regular faculty, by type of institution: Fall 1987 192

5.12 Percentage of part-time faculty and full-time regular faculty under a collective bargaining agreement, by type of institution: Fall 1987 193

5.13 Mean number of hours worked by part-time faculty and full-time regular faculty, by type of work and type of institution: Fall 1987 197

5.14 Percentage of part-time faculty who had other full-time employment, by type of institution: Fall 1987 197

5.15 Percentage of time spent on various activities by part-time faculty and full-time regular faculty, by type of institution: Fall 1987 198

5.16 Mean number of refereed articles, books, and chapters published in the past two years by part-time faculty and full-time regular faculty and percentage of faculty who had any of these publications, by type of institution: Fall 1987 198

5.17 Mean income for part-time faculty and full-time regular faculty, by source of income and type of institution: Fall 1987 . 201

5.18 Percentage of part-time faculty and full-time regular faculty to whom selected benefits were available, by type of institution: Fall 1987 202

5.19 Percentage of part-time faculty who aspired to full-time academic employment, by type of institution: Fall 1987 204

5.20 Percentage of part-time faculty and full-time regular faculty who were somewhat or very satisfied with various dimensions of their job, by type of institution: Fall 1987 205

Appendix A (Technical Notes) Tables

A.1 Faculty respondents and eligible sample members in two-year colleges and specialized institutions 220

A.2 Faculty respondents and eligible sample members in four-year schools, by type and control of institution and department program area 221

Page

Appendix B (Standard Error) Tables

B.1.1 Age distribution of full-time regular faculty: Fall 1987 227

B.2.1 Mean number of hours worked by full-time regular faculty, by type and control of institution: Fall 1987 228

B.3.1 Mean income for full-time regular faculty, by source of income: Fall 1987 229

B.4.1 Percentage distribution of full-time regular faculty, by gender and type and control of institution: Fall 1987 230

B.5.1 Number (in thousands) and percentage distribution of higher education instructional faculty, by faculty type and type of institution: Fall 1987 231

Glossary

Agriculture and home economics program area: Includes departments of agribusiness and agricultural production, agricultural sciences, renewable natural resources, parks and recreation, home economics, and vocational home economics.

Business program area: Includes departments of accounting, banking and finance, business administration and management, business administrative support, human resources development, organizational behavior, and marketing and distribution.

Doctoral institutions: In chapters 4 and 5, both public and private research and doctoral universities are grouped together in this one general category. In chapters 1 through 3, these four groups are separate (see private research universities, public research universities, private doctoral universities, and public doctoral universities).

Education program area: Includes general and specialized education departments, such as teacher education, education administration, special education, and physical education.

Engineering program area: Includes departments of civil, electrical, electronics, mechanical, and other kinds of engineering, and engineering-related technologies.

Faculty: See instructional faculty.

Fine arts program area: Includes departments of art or music history and appreciation, architecture, crafts, dance, dramatic arts, music, and other visual and performing arts.

Four-year institutions: Institutions that offer baccalaureate and, possibly, higher degree programs in at least several fields (that is, fewer than 50 percent of the degrees they award are in any single specialized field). Comprises those institutions classified as research, doctoral, comprehensive, and liberal arts institutions.

Full-time faculty: Those employed full-time by their institution, as defined by that institution.

Health sciences program area: Includes departments of allied health technologies and services, dentistry, health services administration, medicine, nursing, pharmacy, psychiatry, public health, veterinary medicine, and other health sciences.

Humanities program area: Includes departments of classics, composition, creative writing, English, foreign languages, history, linguistics, literature, philosophy, and religion.

Instructional faculty: The group of faculty on whom NSOPF focused. Defined for the survey as those who had at least some regular instructional duties (such as teaching one or more courses or advising or supervising students' academic activities), in for-credit higher education courses during the 1987 fall term. The group of regular instructional faculty on which this report focuses are referred to interchangeably as "instructional faculty," "regular faculty," and, simply, "faculty."

Liberal arts colleges: Smaller and generally more selective than comprehensive colleges and universities. Primarily offer bachelor's degrees, although some offer master's degrees.

Natural sciences program area: Includes departments of astronomy, biology, botany, chemistry, computer science, geological sciences, mathematics, physics, physiology, statistics, and zoology, and other natural sciences.

Other four-year institutions: In chapters 4 and 5, public and private comprehensive institutions and liberal arts colleges are grouped together in this one general category.

"Other" institutions: Specialized institutions that offer degrees ranging from the bachelor's to the doctorate, at least one-half of which are in a single specialized field. Includes schools of law, engineering, business, art, etc. In this report, this group does not include medical schools, which were included in the doctoral institution groups because almost all were part of or associated with doctoral institutions.

"Other" program area: Includes all departments not included in the other program area categories, some of which are communication, continuing education, library science, law, theology, and interdisciplinary studies.

Part-time faculty: Those employed part-time by their institution, as defined by that institution. Includes regular and temporary faculty.

Private comprehensive institutions: Privately controlled institutions that offer liberal arts and professional programs; a master's degree is the highest degree offered.

Private doctoral universities: Privately controlled institutions that offer a full range of baccalaureate programs and Ph.D. degrees in at least three disciplines, but tend to be less focused on research and receive fewer federal research dollars than the so-called research universities. In this report, this group also includes privately controlled institutions classified by the Carnegie Foundation as specialized medical schools.

Private research universities: Privately controlled institutions among the 100 leading universities in federal research funds. Each of these universities awards substantial numbers of doctorates across many fields.

Professional program areas: Includes departments of business, education, engineering, and health sciences.

Public comprehensive institutions: Publicly controlled institutions that offer liberal arts and professional programs; a master's degree is the highest degree offered.

Public doctoral universities: Publicly controlled institutions that offer a full range of baccalaureate programs and Ph.D. degrees in at least three disciplines, but tend to be less focused on research and receive fewer federal research dollars than the so-called research universities. In this report, this group also includes publicly controlled institutions classified by the Carnegie Foundation as specialized medical schools.

Public research universities: Publicly controlled institutions among the 100 leading universities in federal research funds. Each of these universities awards substantial numbers of doctorates across many fields.

Regular faculty: Those who did not identify themselves in the questionnaire as having acting, affiliate, adjunct, or visiting faculty status. (See also instructional faculty.)

Social sciences program area: Includes departments of anthropology, archeology, demography, economics, geography, government, history, international relations, political science, psychology, sociology, and other social sciences.

Temporary faculty: Those who identified themselves in the questionnaire as having acting, affiliate, adjunct, or visiting faculty status.

Two-year public institutions: Publicly controlled institutions that offer certificate or degree programs through the Associate of Arts level and, with few exceptions, offer no baccalaureate programs. (Faculty from two-year private institutions also were included in the survey, but they are included only in the "all institutions" figures because there were too few cases to provide reliable separate estimates.)

Introduction

The 1988 National Survey of Postsecondary Faculty (NSOPF-88) was the first comprehensive survey of higher education instructional faculty[1] to be conducted by the National Center for Education Statistics (NCES) since 1963. It gathered information regarding the backgrounds, responsibilities, workloads, salaries, benefits, and attitudes of both full- and part-time instructional faculty in their many and varied higher education institutions. In addition, information was gathered from institutional and department-level respondents on such issues as faculty composition, new hires, and departures and recruitment, retention, and tenure policies.

The universe from which the institution sample was selected was all accredited nonproprietary U.S. postsecondary institutions that grant a two-year (A.A.) or higher degree and whose accreditation at the higher education level is recognized by the Secretary, U.S. Department of Education. This includes religious, medical, and other specialized postsecondary institutions as well as two- and four-year non-specialized institutions. According to the 1987 Integrated Postsecondary Education Data System (IPEDS) file, this universe comprised 3,159 institutions.[2] (Note that the universe differs from that used in some other NCES studies in that it does not include postsecondary institutions that are proprietary or those that provide only less than two-year programs of instruction.)

There were three major components of the study: a survey of institutional level respondents at a stratified random sample of 480 institutions; a survey of a stratified random sample of 11,013 eligible faculty members in the participating institutions; and a survey of a stratified random sample of 3,029 eligible department chairpersons (or their equivalent) in the participating two- and four-year institutions (but not those in the specialized schools). Response rates to the three surveys were 88 percent, 76 percent, and 80 percent, respectively.

This special report presents statistics primarily from the faculty survey. The faculty survey results are based on information provided by

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[1] Instructional faculty were defined as those who had at least some regular instructional duties (such as teaching one or more courses or advising or supervising students' academic activities), in for-credit higher education courses during the 1987 fall term.

[2] A more detailed description of the types of institutions surveyed, as well as a description of the sample design and survey methodology is provided in the technical notes, appendix A.

6,265 full-time regular instructional faculty and 1,139 part-time regular instructional faculty. It is estimated that these 7,404 respondents represented a total of about 665,000 faculty, of whom an estimated 489,000 (74 percent) were employed full-time by the institutions eligible for the survey, and 176,000 (26 percent) were employed part-time. (Survey responses also were received from 972 temporary (acting, adjunct, or visiting) instructional faculty, representing a total of about 112,000 individuals. Part-time temporary faculty were included in the section on part-time faculty.[3]

This special report covers the following topics:

- Retirement and separation
- Activities and workload
- Compensation
- Women and minorities
- Part-time faculty

All differences noted in the report are statistically significant at the .05 level.[4] However, the results of this special report are somewhat limited because they are based only on the relationship between two variables. It is possible that if a third variable were considered simultaneously, this third variable might account for the observed differences. For example, observed differences in average income between men and women in the same type of institution may be accounted for if program area also was considered. Control for additional variables was not possible because of a limited sample size.

Three other reports published by NCES provide descriptions of the overall results from each of the three surveys. Those reports are:

- Institutional Policies and Practices Regarding Faculty in Higher Education;

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[3] This report may provide slightly different estimates for part-time faculty than what was published in Faculty in Higher Education Institutions, 1988 because that report did not include part-time temporary faculty's responses in the data on part-time faculty.

[4] In accordance with NCES standards, the Bonferroni adjustment to the significance level was used when multiple comparisons were made. With this adjustment, the .05 significance level was divided by the total number of comparisons made. Consequently, the t-value required for statistical significance in comparisons across institution types and program areas was approximately 2.8--a considerably more rigorous requirement than the 1.96 t-value required for a single comparison.

- A Descriptive Report of Academic Departments in Higher Education Institutions; and
- Faculty in Higher Education Institutions, 1988.[5]

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[5] These reports are available from the Government Printing Office: Institutional Policies and Practices Regarding Faculty in Higher Education, stock number 065-000-00401-1, for $5.50; A Descriptive Report of Academic Departments in Higher Education Institutions, stock number 065-000-00400-3, for $6.00; and Faculty in Higher Education Institutions, 1988, stock number 065-000-00402-0, for $11.00. When ordering, send check or money order (payable to the Superintendent of Documents) to: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, and include stock number. You may also pay by VISA or MasterCard.

Chapter 1: Patterns of Faculty Separation and Retirement

Section 1.1: Background

The aging and retirement of postsecondary faculty increasingly has become a central issue for federal, state, and institutional decision-makers. In particular, the large number of faculty nearing retirement age suggests substantial shortages among faculty in the coming decade or two. Studies by Lozier and Dooris (1987), Connellan (1987), and Bowen and Sosa (1989) also project a significant increase in retirement rates toward the end of the century. These sources predict particularly high potential shortages in several disciplines: humanities, mathematics, natural sciences, and engineering.

In addition to changing retirement patterns among the professoriate, patterns of entrance to and (nonretirement) separation from the profession could affect the number of faculty. During the past two decades, relatively few faculty positions have been available. Stricter tenure policies have accompanied this tight job market. This atmosphere may discourage younger applicants, especially those in underrepresented groups such as minorities and women, from considering a career in academe. It also may discourage young, nontenured faculty who may consider leaving academe because of limited opportunities for advancement (Aurand & Blackburn, 1973; Baldwin & Blackburn, 1981; Brown, 1967; Caplow & McGee, 1958; Clark & Larsen, 1972; Fincher, 1969; Finkelstein, 1984; Marshall, 1964; Palmer & Patton, 1981; Toombs, 1979). Evidence suggests that a number of fields indeed have experienced larger growth in industry and government than in academe, and that salaries in the private sector have outpaced those of academe (Bowen & Schuster, 1986; Fairweather, 1989).

Aging, retirement, and patterns of faculty separation have important implications for institutional decision-makers. Department heads, deans, and senior executives need to reassess personnel policies in light of changes in faculty demographics. Considerable energy may have to be spent on faculty replacement and development, and on competition with other employment sectors for personnel. At the state and federal levels, a redirection of incentives may be required to focus resources on retaining a viable professoriate (including providing incentives for students to pursue academic careers) rather than on encouraging the retirement of an aging professoriate.

This chapter presents data relevant to retirement and separation issues from NSOPF. Data are presented for full-time regular faculty only (excluded are part-time regular faculty and temporary faculty). The data presented are of three types:

- Demographic characteristics that could affect the number and distribution of faculty leaving higher education institutions. These include age and tenure status distributions of faculty;

- Numbers and percentages of faculty leaving higher education institutions for retirement or to pursue other jobs; and

- Relationships between the likelihood of leaving higher education and a variety of personal and job characteristics, such as institutional type, program areas (in four-year institutions only), tenure status, age, gender, race/ethnicity, and job satisfaction.

Section 1.2: Demographic Characteristics

Researchers interested in improving the estimates of potential faculty shortages can benefit from up-to-date descriptive data on two variables used in projections: the age of faculty and the tenure status of faculty. The former variable is useful for modifying retirement projection formulas; the latter is useful for focusing on the group of faculty of particular interest to decision-makers, those in tenure systems (tenure-track and tenured faculty).

Age Distribution

During the 1987 fall term, three-fourths (74 percent) of full-time regular faculty were between the ages of 30 and 54, and one-fourth (25 percent) were 55 years of age or older (table 1.1). Four percent were at or beyond the traditional retirement age of 65.

There was no appreciable variability across institutional types in the percentage of faculty aged 55 or older (table 1.2). However, across program areas in four-year institutions (program area data are for four-year institutions only), three areas differed from the overall figures (table 1.3). Engineering, education, and the humanities all had higher-than-average proportions of faculty aged 55 or older (34, 33, and 32 percent, respectively, compared with 25 percent across all program areas in four-year institutions). The findings that faculty in engineering and the humanities were relatively old, on average, are consistent with studies projecting shortages in these fields (based on age) (Connellan, 1984; Lozier & Dooris, 1988), but NSOPF did not corroborate through these age profiles the corresponding projections of shortages in natural sciences (table 1.3). Moreover, few studies have projected shortages of faculty in education, which NSOPF also found to have a relatively high proportion of older faculty.

Not surprisingly, the percentage of faculty aged 55 and older varied significantly by academic rank and tenure status (table 1.4). Almost one-half of the full professors and about one-third of tenured faculty were aged 55 or older, compared with one-fifth or fewer of faculty in other ranks and tenure situations.

Also in accordance with expectations, male and nonminority faculty tended to be older than their female and minority counterparts (table 1.5), reflecting the preponderance of the former groups in the higher academic ranks (Russell et al., 1990c). For example, 28 percent of male faculty and 25 percent of nonminorities were age 55 or older, compared to 17 percent of female faculty and minorities.

Tenure Status

The percentage of faculty with tenure at any institution affects the number of openings available at any given time. On a national level, the percentage of faculty with tenure within a specific discipline also can influence the decision of students to pursue graduate degrees, which affects the pool of potential faculty members (Bowen & Schuster, 1986).

NSOPF found that 60 percent of full-time regular faculty were tenured. Another 22 percent were on tenure-track but not tenured (non-tenured), and 10 percent were not on tenure-track (non-tenure-track). For 9 percent, tenure was not available at the respondent's institution. Among faculty in institutions with tenure systems, 73 percent were tenured.

Across the various types of institutions, there were considerable differences in the percentages of faculty employed at institutions that did not have tenure systems (table 1.6). Thirteen percent of the full-time faculty in liberal arts institutions, 16 percent of those in private doctoral institutions, 25 percent of those in public two-year schools, and 38 percent of those in other (specialized) institutions were in institutions with no tenure systems. Essentially all of the research and comprehensive institutions and public doctoral institutions had tenure systems.

Only two of the institutional types were statistically different from the overall figures in the proportions of faculty in the various tenure status groups. Public two-year institutions had a lower-than-average percentage (about one-half of the overall percentage) of non-tenured and non-tenure-track faculty (22 and 10 percent overall vs. 9 and 5 percent in two-year schools). Public research universities had a higher-than-average percentage of tenured faculty (69 percent vs. 60 percent overall).

The distribution of tenure status by program area (for four-year institutions) is shown in table 1.7. Humanities and social sciences had higher-than-average percentages of faculty with tenure (72 and 70 percent, respectively, compared with a four-year school average of 61 percent), whereas business and health sciences were lower than average in this regard (45 and 48 percent, respectively).

Table 1.1--Age distribution of full-time regular faculty: Fall 1987

Age group	Percentage
Total	100
Under 30	1
30-44	40
45-54	34
55-59	12
60-64	9
65 or older	4

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.2--Percentage of full-time regular faculty aged 55 or older, by type and control of institution: Fall 1987

Type and control of institution	Percentage
All institutions	25
Public research	27
Private research	21
Public doctoral	25
Private doctoral	27
Public comprehensive	26
Private comprehensive	22
Liberal arts	25
Public two-year	23
Other	25

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.3--Percentage of full-time regular faculty aged 55 or older in four-year institutions, by program area: Fall 1987

Program area	Percentage
All program areas	25
Agriculture/home economics	19
Business	20
Education	33
Engineering	34
Fine arts	21
Health sciences	24
Humanities	32
Natural sciences	19
Social sciences	22
Other	28

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.4--Percentage of full-time regular faculty aged 55 or older, by academic rank and by tenure status: Fall 1987

Academic rank	Percentage	Tenure status	Percentage
All full-time regular faculty	25	All full-time regular faculty	25
Full professor	46	Tenured	34
Associate professor	19	On tenure track but not tenured	5
Assistant professor	9	No tenure system for faculty status or not on tenure track	13
Instructor	13	No tenure system at institution	20
Lecturer	11		

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.5--Age distribution of regular full-time faculty, by gender and minority/nonminority status: Fall 1987

Age group	Male	Female	Nonminority	Minority
	(Percent)		(Percent)	
Total	100	100	100	100
Under 30	1	3	2	2
30-44	36	49	39	47
45-54	35	31	34	34
55-59	14	8	12	9
60-64	10	6	9	6
65 or older	4	3	4	2

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.6--Percentage distribution of full-time regular faculty, by tenure status and type and control of institution: Fall 1987

Type and control of institution	Tenured	On tenure track but not tenured	No tenure system for faculty status or not on tenure track	No tenure system
All institutions	60	22	10	9
Public research	69	20	10	1
Private research	54	31	13	2
Public doctoral	59	27	13	0
Private doctoral	48	29	8	16
Public comprehensive	66	23	10	1
Private comprehensive	55	30	12	3
Liberal arts	51	25	11	13
Public two-year	60	9	5	25
Other	38	18	8	38

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.7--Percentage distribution of full-time regular faculty in four-year institutions, by tenure status and program area: Fall 1987

Department program area	Tenured	On tenure track but not tenured	No tenure system for faculty status or not on tenure track	No tenure system
All 4-year institutions	61	25	11	3
Agriculture and home economics	68	20	11	<1
Business	45	40	14	1
Education	65	22	12	2
Engineering	63	31	5	1
Fine arts	65	25	8	2
Health sciences	48	27	18	6
Humanities	72	17	9	2
Natural sciences	67	22	8	3
Social sciences	70	23	5	2
Other fields	57	27	12	4

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 1.3: Retirement

This section presents data on faculty retirement from both the institutional-level survey and the faculty survey. From the institutional survey, data were obtained regarding numbers of faculty who retired between the 1986 and 1987 fall terms and the presence of institutional policies to encourage early retirement. From the faculty survey, data were obtained regarding respondents' expectations of retiring in the next three years and their likely age of retirement.

Institutional-Level Data

1986-87 Retirement Rates

According to the NSOPF institutional-level respondents, 1.8 percent of full-time regular faculty members and 2.7 percent of full-time tenured faculty retired between the 1986 and 1987 fall terms (table 1.8). Across all institutions, retiring faculty accounted for 26 percent of all departing full-time regular faculty and 55 percent of all departures of tenured faculty. Retirement rates for tenured faculty did not vary appreciably across institutional types, but there were differences for all full-time regular faculty. For this group, retirement rates were highest at public two-year schools, from which 2.5 percent of full-time faculty retired, representing 45 percent of all departures. Among four-year schools, faculty who retired from public schools represented somewhat larger shares of full-time regular faculty than those who retired from private schools (1.9 versus 1.4 percent), and the former also comprised a larger percentage of all departing full-time regular faculty (27 versus 20 percent).

Incentives for Early Retirement

NSOPF found that, among higher education institutions with tenure systems, 28 percent had offered optional early or phased retirement at some time during the three years before the survey. This is a considerably smaller percentage than the "up to one-half" suggested by Chronister and Kepple, (1986) and Daniels (1990), although differences in the types of institutions surveyed and nature of the questions asked may account for some of the difference. Consistent with other studies, however, NSOPF found that public four-year institutions offered these incentives more often than private four-year institutions (41 versus 28 percent, respectively) (table 1.9).

Faculty Perspective

In this section, three retirement-related issues are examined from the faculty perspective: the proportion of faculty expecting to retire within three years, expected age at retirement from paid employment, and expected age at retirement from postsecondary-level teaching.

Expected Retirement Within Three Years

Seven percent of full-time regular faculty indicated that they were "very likely" to retire in the next three years. Faculty in private research and private comprehensive institutions were less likely than average to anticipate retirement--4 and 5 percent, respectively, said they were very likely to retire in the next three years (table 1.10). (As indicated in Section 1.2, there was little variability across types of institutions in the age distribution of faculty, so these differential expectations cannot be explained by age differences.)

Across program areas in four-year institutions, faculty in education (who tended to be older than average) indicated a higher-than-average likelihood of retirement in the near future (13 percent said they were very likely to retire, compared with 7 percent for faculty in four-year institutions overall) (table 1.11). Among other programs, there were no significant differences from the overall percentage in the percent of faculty reporting they were very likely to retire.

Not surprisingly, relatively senior faculty (i.e., tenured and full professors) and, especially, older faculty were considerably more likely to expect to retire within three years than were their more junior counterparts (tables 1.12 and 1.13). Nevertheless, only 55 percent of faculty aged 65 or older expected to retire within three years.

Expected Age of Retirement from Paid Employment

NSOPF respondents were asked to indicate at what age they were most likely to retire from paid employment. Thirteen percent indicated that they "had no idea" when they would retire. Among those who were able to provide an answer, two-thirds of all full-time faculty (64 percent) indicated that they expected to retire from paid employment at or beyond the traditional retirement age of 65 (table 1.14). Additionally, the percentage of those who anticipated retirement before age 65 (36 percent) was partly offset by those who anticipated delaying retirement until age 70 or older (22 percent).

Among the different types of institutions, higher-than-average proportions of faculty in public two-year colleges expected to retire between 55 and 59 years of age (18 percent compared to the overall average of 8 percent) and 33 percent between 60 and 64 years of age (compared with the overall average of 26 percent). Faculty in public comprehensive institutions were more likely than average to expect to retire between 60 and 64 years of age (31 percent). NSOPF also found that women were more likely than men to anticipate retirement between 55 and 59 years of age (12 versus 6 percent) and less likely to anticipate it at age 70 or older (18 versus 24 percent) (table 1.16).

Age Likely to Stop Teaching at Postsecondary Level

Respondents also were asked at what age they thought they were most likely to stop teaching at a postsecondary institution. Ten percent of full-time regular faculty indicated that they had no idea. Of the remaining 90 percent who did indicate an age level, one-half (51 percent) thought they would stop teaching at or beyond age 65 (table 1.17).

Comparison of respondents' expectations to retire with their expectations to stop teaching showed that, overall, 24 percent of faculty expected to stop teaching earlier than they expected to retire. Predictably, this differential was less common among older respondents than among their younger colleagues (table 1.18). For example, almost one-third (30 percent) of faculty under age 45 expected to stop teaching before retirement, compared with 16 percent of those aged 60 to 64 and 9 percent of those 65 or older.

Table 1.8--Retirement of full-time regular and tenured faculty in 1986-87, by type and control of institution

	Retiring full-time regular faculty as a percentage of:		Retiring tenured faculty as a percentage of:	
Type and control of institution	All full-time regular faculty	All departures	All tenured faculty	All tenured departures
All institutions	1.8	26	2.7	55
Public four-year	1.9	27	2.7	57
Private four-year	1.4	20	2.4	52
Public two-year	2.5	45	3.0	58
Other	1.3	13	2.9	36

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, institution survey.

Table 1.9--Percentage of higher education institutions that offered incentives for early or phased retirement during the past 3 years, by type and control of institution: Fall 1987

Type and control of institution	Percentage
All institutions	28
Public four-year	41
Private four-year	28
Public two-year	31
Other	6

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, institution survey.

Table 1.10--Percentage of full-time regular faculty who reported that they were "very likely" to retire in the next three years, by type and control of institution: Fall 1987

Type and control of institution	Percentage
All institutions	7
Public research	9
Private research	4
Public doctoral	8
Private doctoral	4
Public comprehensive	9
Private comprehensive	5
Liberal arts	6
Public two-year	8
Other	7

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.11--Percentage of full-time regular faculty in four-year institutions who reported that they were "very likely" to retire in the next three years, by program area: Fall 1987

Program area	Percentage
All program areas	7
Agriculture/home economics	7
Business	6
Education	13
Engineering	11
Fine arts	9
Health sciences	7
Humanities	7
Natural sciences	6
Social sciences	5
Other	8

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.12--Percentage of full-time regular faculty who reported that they were "very likely" to retire in the next three years, by academic rank and tenure status: Fall 1987

Academic rank	Percentage	Tenure status	Percentage
All full-time regular faculty	7	All full-time regular faculty	7
Full professor	12	Tenured	10
Associate professor	7	On tenure track but not tenured	1
Assistant professor	3	No tenure system for faculty status or not on tenure track	4
Instructor	4	No tenure system at institution	8
Lecturer	1		

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.13--Percentage of full-time regular faculty who reported that they were "very likely" to retire in the next three years, by age group: Fall 1987

Age group	Percentage
All ages	7
Under 30	1
30-44	1
45-54	3
55-59	10
60-64	32
65 or older	55

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.14--Age at which full-time regular faculty are likely to retire from paid employment: Fall 1987

Age	Percentage who expect to retire at given age
Total	100
Under 50	1
50-54	1
55-59	8
60-64	26
65-69	42
70 or older	22

NOTE: Thirteen percent of the full-time regular faculty indicated that they had no idea when they were most likely to retire. These individuals are excluded from this table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.15--Age of expected retirement for full-time regular faculty, by type and control of institution: Fall 1987

Type and control of institution	Percentage expecting to retire at age:					
	Under 50	50-54	55-59	60-64	65-69	70+
All institutions	1	1	8	26	42	23
Public research	<1	<1	4	24	45	27
Private research	<1	1	4	16	46	32
Public doctoral	<1	1	8	25	44	22
Private doctoral	5	0	5	16	52	22
Public comprehensive	<1	1	8	31	43	17
Private comprehensive	1	1	6	22	42	28
Liberal arts	<1	0	3	26	47	24
Public two-year	1	3	18	33	29	16
Other	1	1	4	23	43	28

NOTE: Thirteen percent of the full-time regular faculty indicated that they had no idea when they were most likely to retire. These individuals are excluded from this table. Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.16--Percentage of full-time regular faculty who expected to retire at each of the various ages, by gender: Fall 1987

Gender	Percentage expecting to retire at age:					
	Under 50	50-54	55-59	60-64	65-69	70+
All full-time regular faculty	1	1	8	26	42	23
Male	1	1	6	25	43	24
Female	1	2	12	29	38	18

NOTE: Thirteen percent of the full-time regular faculty indicated that they had no idea when they were most likely to retire. These individuals are excluded from this table. Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.17--Age at which full-time regular faculty are likely to stop teaching at the postsecondary level: Fall 1987

Age	Percentage who expect to stop teaching at a given age
Total	100
Under 40	2
40-49	4
50-54	3
55-59	12
60-64	28
65-69	36
70 or older	15

NOTE: Ten percent of the full-time regular faculty indicated that they had no idea when they were most likely to stop teaching at the postsecondary level. These individuals are excluded from this table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.18--Percentage of full-time regular faculty who are likely to stop teaching at the postsecondary level before they retire, by current age group: Fall 1987

Current Age	Percentage who expect to stop teaching before retirement
All ages	24
Under 45	30
45-54	24
55-59	20
60-64	16
65 or older	9

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 1.4: Other Forms of Separation

Faculty leave an institution for reasons other than retirement. These include leaving for a faculty job in another academic institution, voluntarily changing employment sectors altogether, and leaving for involuntary reasons (e.g., termination because of fiscal crisis, denial of tenure, dismissed for cause, disability, death). Examined in this section are 1986-87 institutional exit rates and faculty perspectives on the likelihood of their changing positions and employment sectors.

1986-87 Institutional Exit Rates

According to reports by institutional representatives, 5.2 percent of full-time regular faculty left their institutions between the 1986 and 1987 fall terms for reasons other than retirement (table 1.19). Interestingly, whereas public two-year schools had the highest retirement rates, they had the lowest rates here (3.0 percent). In contrast, private two-year and specialized schools comprising the "other" category had the highest nonretirement departure rates (8.8 percent).

As was expected, tenured faculty had considerably lower nonretirement departure rates than full-time faculty in general, with only 1.6 percent of tenured faculty departing between the 1986 and 1987 fall terms for reasons other than retirement. A higher-than-average percentage of tenured faculty in the residual "other" group of institutions departed (4.0 percent).

Of those tenured faculty who departed (but did not retire), by far the most common reason was to assume another position, accounting for 72 percent of all non-retirement departures (table 1.20).

Faculty Perspective

Likelihood of Pursuing a New Full-Time Job

Fourteen percent of full-time regular faculty indicated that they were very likely to pursue (seek or accept) a different full-time job in the next three years. Not surprisingly, the relatively junior faculty (in terms of academic rank, tenure status, and age) were more predisposed to consider changing positions than their more senior colleagues. For example:

- Assistant professors were almost three times as likely to indicate a high likelihood of pursuing a new full-time position as were full professors (21 versus 8 percent; table 1.21).

- Only 8 percent of tenured faculty expected to pursue a new full-time job, compared with 22 percent of those who were non-tenured (tenure-track) and 29 percent of those not on tenure-track (table 1.21).

- Faculty aged 30-44 were twice as likely as faculty aged 45-54 to consider pursuing a different full-time job (21 versus 10 percent; table 1.22).

However, there were no appreciable differences by type of institution or program area, with two exceptions:

- Faculty in public two-year colleges were less likely to consider pursuing a different full-time job than were all faculty (9 percent compared with 14 percent overall; table 1.23).
- Among faculty in four-year institutions, those in business program areas were much more likely than their colleagues in other program areas to indicate a high likelihood of pursuing a different full-time job (25 percent, versus 15 percent for four-year schools overall; table 1.24).

Finally, the likelihood of pursuing a new full-time job was negatively related to satisfaction on a wide range of aspects of one's job, including workload, job security, salary, benefits, advancement opportunities, reputation of the institution, and overall job satisfaction (table 1.25). For example, on a 4-point scale ranging from very dissatisfied to very satisfied, the mean overall job satisfaction rating was 3.44 for those not at all likely to pursue a new job, 3.01 for those somewhat likely to do so, and 2.53 for those very likely to do so. That is, on the average, those not likely to change jobs were between "somewhat satisfied" and "very satisfied", whereas those very likely to change jobs were between "somewhat dissatisfied" and "somewhat satisfied."

Changing Employment Sectors

Respondents were asked, if they were to leave their current position, how likely was it that they would do so to (1) return to school as a student or (2) accept employment in each of 11 employment sectors (including several postsecondary education sectors, other education, health care, nonprofit and for-profit organizations, government, etc.). Response categories were "not at all likely," "somewhat likely," and "very likely" for each of the 12 student/employment sectors.

Of the 14 percent of full-time faculty who were very likely to pursue a new full-time job, 46 percent would definitely stay within the postsecondary education sector, 20 percent would definitely leave the postsecondary education sector, and 34 percent indicated no clear choice of employment sector (table 1.26). Thus, 3 percent (14 percent times 20 percent) of full-time faculty expected to leave postsecondary education within three years to pursue another full-time job, and another 5 percent (14 percent times 34 percent) considered leaving academe.

Table 1.19--Percentage of full-time regular and tenured faculty who departed between the 1986 and 1987 fall terms for reasons other than retirement, by type and control of institution: Fall 1987

Type and control of institution	Percent of full-time regular faculty who departed	Percent of tenured faculty who departed
All institutions	5.2	1.6
Public four-year	5.1	1.5
Private four-year	5.7	1.6
Public two-year	3.0	1.3
Other	8.8	4.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, institution survey.

Table 1.20--Reasons for departure among those tenured faculty who departed between the 1986 and 1987 fall terms for reasons other than retirement: Fall 1987

Reason for departure	Percentage
Total	100
Assume another position	72
Removed for cause	3
Institutional Retrenchment	2
Other reasons (e.g., death, disability)	23

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, institution survey.

Table 1.21--Percentage of full-time regular faculty who reported that they were "very likely" to pursue (seek or accept) a different full-time job during the next three years, by academic rank and by tenure status: Fall 1987

Academic rank	Percentage	Tenure status	Percentage
All full-time regular faculty	14	All full-time regular faculty	14
Full professor	8	Tenured	8
Associate professor	12	On tenure track but not tenured	22
Assistant professor	21	No tenure system for faculty status or not on tenure track	29
Instructor	22	No tenure system at institution	16
Lecturer	28		

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.22--Percentage of full-time regular faculty who reported that they were "very likely" to pursue (seek or accept) a different full-time job during the next three years, by age group: Fall 1987

Age group	Percentage
All ages	14
Under 30	36
30-44	21
45-54	10
55-59	8
60-64	5
65 or older	8

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.23--Percentage of full-time regular faculty who reported that they were "very likely" to pursue (seek or accept) a different full-time job in the next three years, by type and control of institution: Fall 1987

Type and control of institution	Percentage
All institutions	14
Public research	14
Private research	12
Public doctoral	17
Private doctoral	19
Public comprehensive	16
Private comprehensive	13
Liberal arts	15
Public two-year	9
Other	15

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.24--Percentage of full-time regular faculty in four-year institutions who reported that they were "very likely" to pursue (seek or accept) a different full-time job in the next three years, by program area: Fall 1987

Program area	Percentage
All program areas	15
Agriculture/home economics	13
Business	25
Education	16
Engineering	13
Fine arts	17
Health sciences	12
Humanities	14
Natural sciences	13
Social sciences	13
Other	17

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.25--Mean job satisfaction ratings of full-time regular faculty who reported that they were "not at all likely," "somewhat likely," and "very likely" to pursue (seek or accept) a different full-time job in the next three years: Fall 1987

Job satisfaction dimension	All full-time regular faculty	Not at all likely	Somewhat likely	Very likely
Overall job satisfaction	3.18	3.44	3.01	2.53
Work load	3.01	3.18	2.83	2.76
Job security	3.33	3.60	3.13	2.73
Salary	2.60	2.79	2.43	2.21
Benefits	3.02	3.17	2.90	2.73
Advancement opportunities	2.90	3.10	2.85	2.30
Reputation of the institution	3.07	3.22	2.96	2.69

NOTE: Mean ratings are based on a 4-point scale where 1 = very dissatisfied, 2 = somewhat dissatisfied, 3 = somewhat satisfied, and 4 = very satisfied.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.26--Employment sector choices of the 14 percent of full-time regular faculty who were very likely to pursue a new full-time job: Fall 1987

	Percentage
Total	100
Stay within postsecondary sector	46
Leave postsecondary sector	20
No clear choice	34

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 1.5: Projections to the Year 2000

There has been considerable discussion recently about the likely status of the professoriate in the year 2000, but much of the speculation and many of the projections have relied either on dated information (Bowen & Schuster, 1986), on models based on number of doctorates awarded and student/faculty ratios that exclude the characteristics and career patterns of faculty (Bowen & Sosa, 1989), or on small, specialized samples (e.g., Gappa, 1989). In contrast, the comprehensiveness of the NSOPF sample and the variety of questions relating to retirement and separation make the NSOPF data base a comparatively rich and reliable source of information from which to make projections.

Based on the age distribution of faculty in the fall, 1987, by the year 2000, 30 percent of the full-time regular faculty will have reached age 65. More strikingly, 38 percent of the 1987 faculty population expected to retire by 2000, and one-half (51 percent) expected to stop teaching at the postsecondary level by then. (This latter figure is consistent with Bowen and Sosa's estimate that 53 percent of full-time arts and science faculty at four-year institutions will leave by 2002.)

As noted in previous sections, the most striking differences in age and expectations regarding retirement were due to tenure status differences (table 1.27). Tenured faculty (who represent 60 percent of all full-time regular faculty--Russell et al., 1990c, table 2.7) were considerably more likely than other groups--especially the tenure-track group--to reach age 65, expect to retire, and expect to stop teaching by the year 2000. For example, over one-half (60 percent) of tenured faculty expected to stop teaching at the postsecondary level before the year 2000, compared with only one-quarter (24 percent) of tenure-track faculty (table 1.27).

Analogous to findings reported in earlier sections, the nine types of institutions showed no appreciable differences in the percentages who will reach age 65 by 2000, but they showed differences in the percentages who expected to retire and stop teaching by 2000 (table 1.28). Private research and liberal arts institutions had lower-than-average percentages in both categories (30 and 32 percent of their faculty, respectively, expected to retire by 2000, and 38 and 42 percent expected to stop teaching at the postsecondary level by 2000). Public research universities also had a lower-than-average percentage who expected to stop teaching by 2000 (44 percent). In contrast, public two-year institutions were higher than average in both categories (46 percent expected to retire and 60 percent expected to stop teaching), and the "other" (specialized) institutions had a higher-than-average percentage who expected to stop teaching (60 percent).

Among program areas in four-year institutions, the data suggest that education faculty will have the most serious problem of departing faculty (table 1.29). Education faculty were considerably more likely than average to reach age 65 by the year 2000 (40 percent, versus a four-year school average of 30 percent), to retire (49 versus 37 percent) and to stop teaching (60 versus 48 percent). Similarly, humanities faculty were more likely than average to reach age 65 and to expect to retire by 2000 (38 percent will have turned 65, and 42 percent expected to have retired). Also, a higher-than-average percentage of engineering faculty (40 percent) will reach age 65 by 2000; but, interestingly, although this group was relatively old, its members were not more likely than average to retire or stop teaching by 2000.

Finally, there also were interesting findings with regard to gender and race/ethnicity (table 1.30). As noted previously, on average, men and nonminorities were older than their female and minority counterparts, so more will have reached 65 by the year 2000. However, these age differences were offset by the fact that women and minorities tended to expect earlier ages of retirement and earlier ages at which they planned to stop teaching. Consequently, there were no differences between men and women or minorities and nonminorities in the percentages who expect to retire or stop teaching by the year 2000. For example, although one-third (33 percent) of the men and only one-fifth (21 percent) of the women will reach age 65 by the year 2000, about one-half of each group (52 and 48 percent, respectively) expected to stop teaching by then. Thus, it appears that the future gains in the relative representation of women and minorities that seemed likely on the basis of the age distributions may not occur.

Table 1.27--Percentage of full-time regular faculty who will reach age 65, who expect to retire, and who expect to stop teaching at the postsecondary level between 1987 and 2000, by tenure status: Fall 1987

Tenure status	Reach age 65	Expect to retire	Expect to stop teaching
All institutions	30	38	51
No tenure system at institution	26	38	54
No tenure system for faculty status or not on tenure track	15	24	43
On tenure track but not tenured	7	12	24
Tenured	41	50	60

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.28--Percentage of full-time regular faculty who will reach age 65, who expect to retire, and who expect to stop teaching at the postsecondary level between 1987 and 2000, by type and control of institution: Fall 1987

Type and control of institution	Reach age 65	Expect to retire	Expect to stop teaching
All institutions	30	38	51
Public research	31	35	44
Private research	26	30	38
Public doctoral	30	36	51
Private doctoral	30	41	58
Public comprehensive	30	43	54
Private comprehensive	28	35	48
Liberal arts	29	32	42
Public two-year	30	46	60
Other	33	39	60

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.29--Percentage of full-time regular faculty in four-year institutions who will reach age 65, who expect to retire, and who expect to stop teaching at the postsecondary level between 1987 and 2000, by program area: Fall 1987

Department program area	Reach age 65	Expect to retire	Expect to stop teaching
All four-year institutions	30	37	48
Agriculture and home econ.	23	32	43
Business	22	25	43
Education	40	49	60
Engineering	40	44	58
Fine arts	26	37	51
Health sciences	28	35	51
Humanities	38	42	49
Natural sciences	25	33	42
Social sciences	25	31	39
Other fields	32	40	48

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 1.30--Percentage of full-time regular faculty who will reach age 65, who expect to retire, and who expect to stop teaching at the postsecondary level between 1987 and 2000, by gender and by minority/nonminority status: Fall 1987

	Reach age 65	Expect to retire	Expect to stop teaching
All full-time regular faculty	30	38	51
Men	33	41	52
Women	21	32	48
Nonminorities	31	39	51
Minorities	23	35	45

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 1.6: Summary

NSOPF found that, as of the 1987 fall term, 25 percent of the full-time regular faculty at higher education institutions were age 55 or older. Seven percent considered it very likely that they would retire within the next three years, and 15 percent thought it very likely that they would pursue a different full-time job in that time period.

Most notably, about one-third of the faculty (36 percent) anticipated that they would retire before age 65, and a remarkable 49 percent thought they would stop teaching at the postsecondary level before age 65. (One-fourth, or 24 percent, expected to stop teaching at an earlier age than their retirement age.) Using the data to extrapolate to the year 2000 suggests that by the year 2000 30 percent of the 1987 fall term faculty would have reached age 65, 38 percent expected to have retired, and 51 percent expected to have stopped teaching.

Groups that appear likely to have the most serious problem of faculty shortages (based on anticipated departures only) include public two-year institutions and departments of education. NSOPF provided only partial confirmation of the concern of particularly high potential shortages of faculty in humanities and engineering in that they tend to be older (but expect to retire at a later age than other faculty), and no support at all for concerns over shortages in the natural sciences and mathematics. The study also found earlier expected exit ages for women and minorities than for men and nonminorities, which may mean that women's and minorities' potential gains in representation (based on 1987 age distributions) may not occur.

Chapter 2: Faculty Activities and Workload

Section 2.1: Background

Faculty workload and allocation of time have been and continue to be important issues in higher education. The time that faculty spend on various tasks and in total is important to faculty, their institutions, and state and federal decision-makers. Faculty workload studies are relevant to collective bargaining (Douglas, Krause, & Winogora, 1980), cost analysis studies (Doi, 1974), equity issues, management of grant proposals, legal cases and legislative matters, and public relations (Yuker, 1984). Minimum and maximum workload specifications are central to collective bargaining agreements. Workload studies also are useful in determinations of whether race/ethnicity or gender inequities exist at specific institutions. The Federal Government's interest in faculty workload was made clear when the Office of Management and Budget issued an order, subsequently rescinded, to require all faculty receiving funds from federal grants or contracts to report total work hours. Both federal and state interest in these issues also have been evident through efforts of courts and state legislatures to define (and thus measure) faculty workload. And individual institutions often must address faculty workload when justifying budgets and expenditures to relevant constituencies.

Faculty workload and time allocation also are important because of their likely relationship to how satisfied faculty are with their jobs and how well they perform them (Seldin, 1987). Moreover, interest in faculty time allocation has been reflected in concern about a possible decline in instructional quality resulting from an overemphasis on research at the cost of time spent on instruction (Bowen & Schuster, 1986). Others have expressed concerns that faculty members' productivity and workload decreases over time, (especially following attainment of tenure or full professorship) and have accordingly called for post-tenure review or other corrective action (Sykes, 1988; Licata, 1986; Bennet and Chater, 1984; National Commission on Higher Education Issues, 1982). With likely continued concerns about educational quality and increasing costs of higher education, faculty workload will remain an important topic in the study of higher education.

Despite its utility as a concept, the definition and assessment of faculty workload remain problematic. Typically, teaching, research, and professional service are included in the definition. Others have argued that consulting and/or administrative activities are important components of workload as well, although little is known nationally about the extent of faculty participation in these activities (Finkelstein, 1984). Studies of faculty workload are further complicated by institutional and disciplinary differences and by differences between graduate and undergraduate levels of instruction (Bowen & Schuster, 1986). Faculty working in institutions with a heavy service emphasis, for example, might be expected to devote more time to service activities than their counterparts in, say, research-oriented institutions. Faculty in disciplines that receive substantial research funds might be expected to devote more time to research than their counterparts in fields without such support. In addition, the time spent per student in undergraduate courses differs substantially from the more in-depth one-on-one association common in graduate and doctoral work. These many differences complicate overall assessments of faculty workload and make cross-study comparisons difficult.

The purpose of this chapter is to examine the activities, workload, and level of productivity reported by faculty. Responses of full-time regular faculty to NSOPF-88 provide the basis for examining the following questions:

Workload and Time Allocation

- How many hours do faculty work, both at their institution of employment and overall?
- How do faculty allocate their time across various types of professional and service activities?
- Do workload and time allocation vary by institutional type, departmental program area, academic rank, or tenure status?

Productivity

- How many publications of various types do faculty actually produce?
- How much time do faculty spend in the classroom?
- Do publications and time in the classroom vary by institutional type, departmental program area, academic rank, or tenure status?

Satisfaction

- How satisfied are faculty with their workload and the time they spend on various activities?
- Is overall job satisfaction related to workload?

Section 2.2: Workload

In this section, two components of the faculty workload are examined: the number of hours worked per week and the distribution of these hours among various types of activities.

The Faculty Work Week

Across all higher education institutions, the average full-time faculty work week during the 1987 fall term was 53 hours, including 46 hours in activities at the institution of employment (87 percent of the total), 4 hours in other paid activities (7 percent), and 3 hours in unpaid service activities (6 percent) (table 2.1).

Faculty in public research and public doctoral institutions tended to have longer than average total work weeks (57 and 55 hours, respectively); whereas, faculty in private comprehensive and public two-year institutions worked fewer than average total hours (51 and 47 hours, respectively). Including only the time spent working at the institution, faculty in public and private research and public doctoral institutions worked an above-average amount of time (52, 50, and 49 hours per week, respectively). Faculty in private comprehensive and public two-year colleges again showed below-average hours per week (44 and 40, respectively). The 40 hours-per-week average at two-year schools not only was below the overall average but also was less than that at any of the seven types of four-year schools.

At four-year institutions, faculty worked an average of 54 hours per week in total and 48 hours per week at the institution. Across program areas in these four-year institutions, faculty in education worked slightly fewer than average hours per week, both overall (52 hours) and in activities at their institutions (45 hours); whereas, health sciences faculty tended to work more hours than average overall (57 hours) (table 2.2). Faculty in fine arts worked fewer than average hours at their institution (44 hours), but they spent more time than average on other paid activities (6 hours, versus 3 hours for program areas overall).

An analysis of the length of the work week by rank and tenure status shows no support for the arguments made by advocates of post-tenure review, namely, that workload declines with increasing rank or the achievement of tenure (tables 2.3 - 2.6). The three professorial ranks (professor, associate professor, and assistant professor) did not differ appreciably from one another in either total hours worked or hours worked at the institution, and faculty in all three professorial ranks worked more hours than those in the nonprofessorial ranks (instructors, lecturers, and others). For example, faculty in the three professorial ranks had total work weeks averaging 53 to 54 hours, compared to averages of 46 to 48 hours for instructors, lecturers, and others (table 2.3). Although there is a higher percentage of non-professorial faculty in two-year schools than in four-year schools, the pattern persisted when the analysis was limited to four-year schools (table 2.4). Thus, among faculty at four-year schools, those in the professorial ranks averaged 54 to 55 total hours per week, compared to an average of 49 hours per week for instructors, lecturers, and others combined.

There was a slight decline in workload as faculty gained tenure: tenure-track faculty spent an average of 55 hours per week working, whereas tenured faculty averaged 53 hours per week (table 2.5). However, this difference was partly attributable to a higher proportion of tenured faculty in two-year institutions than in four-year institutions[1] (Russell et al., 1990c). When the analysis was limited to four-year institutions, there were no differences between tenure-track and tenured faculty (table 2.6). Moreover, both tenure-track and tenured faculty worked more total hours and more hours at the institution than those who were in non-tenure-track positions or in institutions where tenure was not available (see tables 2.5 and 2.6).

Time Allocation

Survey respondents were asked to estimate the percentage of their total working hours that they spent on each of 13 activities during the 1987 fall term. For this report, the 13 activities are collapsed into the six broader categories listed below:

- Teaching: teaching, advising, or supervising students; grading papers, preparing courses, developing new curricula, etc.;
- Research: research; scholarship; preparing or reviewing articles or books; attending or preparing for professional meetings or conferences, etc.; seeking outside funding (including proposal writing);
- Administration: administrative activities (including paperwork; staff supervision; serving on in-house committees, such as the academic senate, etc.); working with student organizations or intramural athletics;
- Community service: paid or unpaid community or public service (civic, religious, etc.);
- Professional development: taking courses, pursuing an advanced degree; other professional development activities, such as practice or other activities to remain current in one's field; and

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[1] Tenure is considered automatic at many of the two-year institutions after one or two years.

- Other work: providing legal or medical services or psychological counseling to clients or patients; outside consulting or freelance work, working at self-owned business; other employment; giving performances or exhibitions in the fine or applied arts, or speeches; any other activities.

Across all higher education institutions, faculty spent slightly more than one-half their time (56 percent) on teaching activities, 16 percent of their time on research, 13 percent on administration, 4 percent on community service, 5 percent on professional development activities, and 7 percent on other work (table 2.7). Not unexpectedly, substantial variation existed among faculty from different types of institutions. Faculty in research and doctoral institutions spent a smaller than average proportion of their time on teaching (39 to 47 percent) and a higher than average proportion on research (22 to 30 percent). Faculty in public two-year institutions spent only 3 percent of their time on research activities. Interestingly, although public two-year colleges typically are considered to have a relatively heavy community service emphasis, their faculty spent only a slightly higher than average percentage of their time on this activity (5 percent).

Faculty in the various program areas in four-year institutions showed quite varied work patterns (table 2.8). The most striking divergence from the overall four-year school percentages was that health science faculty spent a considerably lower than average percentage of their time on teaching activities (34 versus 52 percent) and higher than average percentages on "other work" (17 versus 7 percent) and professional development (7 versus 4 percent). In contrast, education and humanities faculty spent higher than average percentages of their time teaching (58 and 61 percent, respectively, compared to the four-year school average of 52 percent) and somewhat less than average percentages of their time on research (12 and 17 percent, respectively, compared to the four-year school average of 20 percent). Fine arts faculty were distinctive in their lower than average time on research (10 percent) and their higher than average time on "other work" (which includes performances and exhibitions) (13 percent) and professional development (6 percent).

Allocation of one's time also varied substantially by academic rank, although the differences were not quite what would be expected (table 2.9). Specifically, as was the case with total workload, there were no major differences across the three professorial ranks in time allocation. Assistant professors reported spending somewhat more of their time on teaching activities than associate or full professors (56 percent versus 53 and 51 percent, respectively). There were no differences in time spent on research. However, full professors spent more of their time than assistant professors on administrative activities (16 versus 10 percent). There were larger differences in time allocation between faculty in the three professorial ranks and instructors and lecturers. Whereas, faculty in the professorial ranks spent about one-half of their time on teaching activities, and instructors and lecturers spent about two-thirds of their time (68 and 66 percent, respectively) on teaching activities.

Research activities presented the opposite pattern. Those in the professorial ranks spent 18 to 20 percent of their time on research activities, and instructors and lecturers spent only 5 and 8 percent of their time (respectively) on research. These time allocation differences persisted when the data were analyzed for four-year institutions only (table 2.10). For example, in four-year institutions, the assistant professors spent more time on teaching activities than associate or full professors (54 percent versus 51 and 48 percent, respectively), but each of these ranks spent less time teaching than the group comprising instructors, lecturers, and others (60 percent).

Differences in time allocation by tenure status also were somewhat different from what might be expected (table 2.11). Tenured faculty, tenure-track faculty, and those not on tenure-track did not differ from one another in the percentage of time spent on teaching activities (53 to 55 percent), but all tended to spend less time on these activities than the 65 percent spent on average by faculty in institutions where tenure was not available. Where the first three groups did differ was on time spent on research and on administration. Analogous to full professors, tenured faculty tended to spend slightly more time than the other two groups on administration (14 percent versus 11 and 12 percent, respectively). Tenure-track faculty spent more time on research than tenured faculty (21 versus 17 percent), who in turn spent more time on this activity than non-tenure-track faculty (13 percent). When the analysis was limited to four-year institutions, the patterns among tenured, tenure-track, and non-tenure-track faculty remained the same (table 2.12). The only appreciable difference between these three groups and all faculty at institutions where tenure was not available was that the faculty in institutions where tenure was not available spent less time on research than tenure-track or tenured faculty (12 percent versus 22 and 20 percent, respectively).

Table 2.1--Mean number of hours worked by full-time regular faculty, by type and control of institution: Fall 1987

Type and control of institution	Total hours worked	Activities at this institution	Other paid activities	Unpaid service
All institutions	53	46	4	3
Public research	57	52	3	2
Private research	56	50	4	2
Public doctoral	55	49	3	2
Private doctoral	53	46	5	2
Public comprehensive	52	46	3	3
Private comprehensive	51	44	4	3
Liberal arts	52	47	3	2
Public two-year	47	40	4	3
Other	50	43	5	2

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.2--Mean number of hours worked by full-time regular faculty in four-year institutions, by program area: Fall 1987

Program area	Total hours worked	Activities at this institution	Other paid activities	Unpaid service
All program areas in four-year institutions	54	48	3	3
Agriculture/home economics	54	50	2	2
Business	53	46	5	3
Education	52	45	3	4
Engineering	55	49	4	2
Fine arts	53	44	6	3
Health sciences	57	51	4	2
Humanities	53	48	2	3
Natural sciences	54	49	3	2
Social sciences	53	48	3	3
Other fields	53	46	4	3

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.3--Mean number of hours worked by full-time regular faculty, by academic rank: Fall 1987

Academic rank	Total hours worked	Activities at this institution	Other paid activities	Unpaid service
All ranks	53	46	4	3
Professor	54	48	4	3
Associate professor	54	48	4	3
Assistant professor	53	48	3	2
Instructor	48	40	4	3
Lecturer	48	42	4	2
Other ranks	46	41	2	2

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.4--Mean number of hours worked by full-time regular faculty in four-year institutions, by academic rank: Fall 1987

Academic rank	Total hours worked	Activities at this institution	Other paid activities	Unpaid service
All ranks in four-year institutions	54	48	3	3
Professor	55	49	4	3
Associate professor	55	49	3	3
Assistant professor	54	49	3	2
Instructor/lecturer/other	49	42	4	2

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.5--Mean number of hours worked by full-time regular faculty in all higher education institutions, by tenure status: Fall 1987

Tenure status	Total hours worked	Activities at this institution	Other paid activities	Unpaid service
All faculty	53	46	4	3
Tenured	53	47	4	3
Tenure-track	55	50	3	2
No tenure system for faculty status or not on tenure track	50	44	4	2
No tenure system at institution	48	42	4	2

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.6--Mean number of hours worked by full-time regular faculty in four-year institutions, by tenure status: Fall 1987

Tenure status	Total hours worked	Activities at this institution	Other paid activities	Unpaid service
All faculty in 4-year institutions	54	48	3	3
Tenured	54	48	3	3
Tenure-track	56	50	3	2
No tenure system for faculty status or not on tenure track	50	44	4	2
No tenure system at institution	51	45	4	3

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.7--Percentage of time spent on various activities by full-time regular faculty, by type and control of institution: Fall 1987

Type and control of institution	Percentage of time spent:					
	Teaching	Research	Admin.	Community service	Other work	Prof. devel.
All institutions	56	16	13	4	7	5
Public research	43	29	14	3	7	4
Private research	40	30	14	2	11	4
Public doctoral	47	22	14	3	9	5
Private doctoral	39	27	13	2	14	4
Public comprehensive	62	11	13	4	5	4
Private comprehensive	62	9	14	5	6	4
Liberal arts	65	8	14	5	4	4
Public two-year	71	3	10	5	5	5
Other	59	9	15	5	7	6

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.8--Percentage of time spent on various activities by full-time regular faculty in four-year institutions, by program area: Fall 1987

	Percentage of time spent:					
Program area	Teaching	Research	Admin.	Community service	Other work	Prof. devel.
All program areas in four-year institutions	52	20	14	3	7	4
Agriculture/ home economics	46	28	14	5	4	4
Business	57	17	12	4	6	4
Education	58	12	16	5	5	4
Engineering	56	21	11	3	4	4
Fine arts	54	10	12	4	13	6
Health sciences	34	25	16	2	17	7
Humanities	61	17	14	3	2	3
Natural sciences	56	24	12	2	3	3
Social sciences	54	21	14	4	4	3
Other fields	58	14	14	5	5	3

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.9--Percentage of time spent on various activities by full-time regular faculty in all higher education institutions, by academic rank: Fall 1987

Academic rank	Percentage of time spent:					
	Teaching	Research	Admin.	Community service	Other work	Prof. devel.
All ranks	56	16	13	4	7	5
Professor	51	20	16	3	6	4
Associate professor	53	19	13	3	7	4
Assistant professor	56	18	10	4	8	4
Instructor	68	5	10	5	5	7
Lecturer	66	8	10	4	6	6
Other ranks	42	8	26	4	13	7

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.10--Percentage of time spent on various activities by full-time regular faculty in four-year institutions, by academic rank: Fall 1987

Academic rank	Percentage of time spent:					
	Teaching	Research	Admin.	Community service	Other work	Prof. devel.
All ranks in four-year institutions	52	20	14	3	7	4
Professor	48	22	17	3	7	4
Associate professor	51	20	14	3	7	4
Assistant professor	54	19	10	4	9	4
Instructor/lecturer/ other	60	9	12	5	7	8

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.11--Percentage of time spent on various activities by full-time regular faculty, by tenure status: Fall 1987

Tenure status	Percentage of time spent:					
	Teaching	Research	Admin.	Community service	Other work	Prof. devel.
All faculty	56	16	14	4	7	5
Tenured	55	17	14	4	6	4
Tenure-track	53	21	11	4	7	5
No tenure system for faculty status or not on tenure track	55	13	12	4	11	6
No tenure system at institution	65	5	12	4	7	6

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

77

Table 2.12--Percentage of time spent on various activities by full-time regular faculty in four-year institutions, by tenure status: Fall 1987

	Percentage of time spent:					
Tenure status	Teaching	Research	Admin.	Community service	Other work	Prof. devel.
All faculty in four-year institutions	52	20	14	3	7	4
Tenured	51	20	15	3	6	4
Tenure-track	51	22	11	3	8	4
No tenure system for faculty status or not on tenure track	54	14	11	3	12	6
No tenure system at institution	51	12	15	4	12	7

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 2.3: Faculty Productivity

In this section, two components of faculty productivity are examined: the number of various kinds of professional "products," such as publications, presentations, and so on; and the time faculty spent with students.

Professional Products

Full-time regular faculty reported that, during the two years preceding the survey, they produced an average of 2.0 articles in refereed journals; 0.6 books, book chapters, and monographs; 0.6 book reviews; 1.5 other reports (articles in nonrefereed journals and research or technical reports disseminated internally or to clients); and 4.3 professional presentations and exhibitions (table 2.13). Over their careers, full-time regular faculty averaged 12.4 articles in refereed journals; 2.6 books, book chapters, and monographs; 3.4 book reviews; 7.9 other reports; and 28.4 presentations and exhibitions (table 2.14).

Across types of institutions, the most striking differences were in numbers of refereed articles and books/chapters/monographs--the two categories that typically are most important in assessments of faculty research productivity (see tables 2.13 and 2.14). Most notably, for the two years preceding the survey and during their career, faculty in public and private research universities (where faculty tend to allocate a high proportion of their time to research) averaged about twice as many refereed articles and books/book chapters/ monographs as faculty across all institutions. Faculty in public research universities (but, interestingly, not those in private research universities) also gave a higher than average number of presentations and exhibitions during the two years preceding the survey (5.8, compared to an average of 4.3) and during their career (38.1, compared to an average of 28.4).

In contrast, faculty in comprehensive institutions, liberal arts institutions, and, especially, those in public two-year institutions produced lower than average numbers of refereed articles and books/chapters/monographs during the two years preceding the survey and during their careers. For example, during the two-year period, faculty in comprehensive universities averaged 1.0 refereed article, those in liberal arts colleges averaged 0.6 refereed articles, and those in public two-year colleges averaged 0.2 refereed articles. Public two-year faculty also produced lower than average numbers of all other kinds of publications and presentations during the two-year period and during their career.

There also was considerable variability in publication rates across program areas (tables 2.15 and 2.16). The results reflect different emphases among the various program areas in the kinds of publications produced. During the two years preceding the survey, faculty in the health and natural sciences produced above-average numbers of refereed articles (4.3 and 3.2, respectively, compared to a four-year institution average of 2.4); faculty in the social and health sciences produced above-average numbers of books/chapters/ monographs (1.1 and 1.2 versus 0.8); humanities faculty produced above-average numbers of book reviews (1.4 versus 0.6); agriculture/home economics and engineering faculty produced above-average numbers of nonrefereed articles and technical reports (3.1 each versus 1.7); and health sciences and, especially, fine arts faculty gave above-average numbers of presentations and exhibitions (6.0 and 15.6 versus 4.7). At the other end of the distributions, business faculty stood out as having produced fewer than average publications of all kinds except "other reports." For the most part, these above- and below-average distinctions were true of the career-long averages as well as the two-year averages.

The data provided no evidence of a decline in research productivity with increasing rank or with the achievement of tenure. During the two years preceding the survey, full professors produced more refereed articles, books/chapters/monographs, and book reviews than assistant professors or faculty in the nonprofessional ranks (table 2.17). For example, they averaged 2.9 refereed articles, compared to 1.7 by assistant professors, 0.3 by instructors, and 0.6 by lecturers. Full professors produced equivalent numbers of refereed articles and books/chapters/ monographs and more book reviews than associate professors. Over their entire career, full professors also produced more of all types of publications and presentations than other ranks of faculty, but this finding may reflect full professors' relative seniority (table 2.18). Similarly, during the two years preceding the survey, tenured faculty produced equivalent or greater numbers of all kinds of publications than their tenure-track and non-tenure-track colleagues (table 2.19), and during their entire career they produced more of each kind than their colleagues (table 2.20).

Instruction-Related Productivity

Two measures of instruction-related productivity were examined: classroom hours and student contact hours. Classroom hours were defined as the number of hours per week spent teaching classes. Student contact hours were defined as the number of hours per week spent teaching classes multiplied by the number of students in those classes.

Across all types of institutions, faculty averaged 9.8 classroom hours and 302 student contact hours per week (table 2.21). By both measures, faculty in two-year public institutions had considerably more instruction-related productivity than average (15.2 classroom hours and 427 student contact hours). Among faculty in the four-year institutions, only those in private comprehensive institutions had a higher than average number of classroom hours (10.9), and none of the four-year institution types were significantly higher than the overall average in student contact hours.[2]

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[2] High within-group variability of student contact hours contributed to the absence of statistically significant inter-group differences.

Reflecting their relatively small class sizes, faculty in liberal arts institutions had lower than average student contact hours (237) but approximately average classroom hours (10.6). Public research faculty, however, were lower than average in both student contact hours (259) and classroom hours (6.6). Private research and public and private doctoral faculty were lower than average in classroom hours (5.9, 8.0, and 6.9, respectively).

Instruction-related productivity did not differ for the most part across the various program areas in four-year institutions (table 2.22). Exceptions were that faculty in agriculture/home economics and in the humanities had fewer than average student contact hours (211 and 242, respectively, versus a four-year institution average of 270). Humanities faculty, however, also had higher than average classroom hours (9.3 versus an average of 8.5). Finally, fine arts faculty averaged more classroom hours (11.4) than their colleagues in any of the other program areas.

Neither classroom hours nor student contact hours differed appreciably across the three professorial ranks (table 2.23). However, all three ranks averaged fewer classroom hours than instructors (8.7 to 9.4 for the professorial ranks versus 13.6 for instructors), and full and assistant professors averaged fewer student contact hours (280 and 262, respectively, versus 377 for instructors). Paralleling the differences found in faculty time allocation (see tables 2.9 and 2.10), these differences reflected, in part, the relatively large numbers of instructors at public two-year colleges.

There were no appreciable differences in classroom hours among tenured, tenure-track, and non-tenure-track faculty (8.8 to 9.8), but all had fewer classroom hours than faculty at institutions without tenure systems (13.5) (table 2.24). The no-tenure-system and tenured groups both had more student contact hours than the tenure-track group (372 and 315, respectively versus 247).

Table 2.13--Mean number of publications by full-time regular faculty during the last two years, by type of publication and by type and control of institution: Fall 1987

Type and control of institution	Refereed articles	Books, chapters	Book reviews	Other reports	Presentations, exhibitions
All institutions	2.0	0.6	0.6	1.5	4.3
Public research	4.0	1.2	0.7	2.4	5.8
Private research	4.1	1.4	0.8	1.5	4.0
Public doctoral	2.7	0.8	0.9	1.7	5.1
Private doctoral	3.6	0.9	0.8	1.1	5.1
Public comprehensive	1.0	0.4	0.5	1.6	4.5
Private comprehensive	1.0	0.4	0.5	1.6	3.9
Liberal arts	0.6	0.3	0.4	0.9	3.2
Public two-year	0.2	0.2	0.3	0.7	2.4
Other	0.9	0.6	0.7	1.5	5.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.14--Mean number of publications by full-time regular faculty during their career, by type of publication and type and control of institution: Fall 1987

Type and control of institution	Refereed articles	Books, chapters	Book reviews	Other reports	Presentations, exhibitions
All institutions	12.4	2.6	3.4	7.9	28.4
Public research	24.9	4.8	4.8	13.0	38.1
Private research	26.8	5.4	5.7	9.8	30.2
Public doctoral	17.1	2.9	4.0	9.0	34.2
Private doctoral	28.8	3.6	4.8	8.4	28.7
Public comprehensive	6.2	1.6	3.1	7.2	31.1
Private comprehensive	5.5	1.2	2.6	8.8	28.7
Liberal arts	3.1	1.4	2.5	4.7	20.1
Public two-year	1.0	0.8	1.4	3.4	13.8
Other	5.1	2.5	4.4	6.7	41.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.15--Mean number of publications by full-time regular faculty in four-year institutions during the last two years, by type of publication and program area: Fall 1987

Program area	Refereed articles	Books, chapters	Book reviews	Other reports	Presentations, exhibitions
All program areas in four-year institutions	2.4	0.8	0.6	1.7	4.7
Agriculture/home econ.	3.3	0.6	0.2	3.1	5.4
Business	1.4	0.5	0.2	1.5	2.6
Education	1.5	0.7	0.4	2.0	5.1
Engineering	2.5	0.5	0.2	3.1	3.0
Fine arts	0.8	0.3	0.4	0.8	15.6
Health sciences	4.3	1.2	0.6	1.7	6.0
Humanities	1.4	0.8	1.4	0.9	3.3
Natural sciences	3.2	0.5	0.5	2.4	2.9
Social sciences	2.1	1.1	0.9	1.4	3.4
Other fields	1.2	0.6	0.7	1.5	3.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.16--Mean number of publications by full-time regular faculty in four-year institutions during their career, by type of publication and program area: Fall 1987

Program area	Refereed articles	Books, chapters	Book reviews	Other reports	Presentations, exhibitions
All program areas in four-year institutions	15.6	3.0	3.9	9.2	31.8
Agriculture/home econ.	20.2	3.4	1.0	14.9	38.3
Business	6.2	1.8	1.2	9.6	11.8
Education	9.2	2.9	2.4	12.5	32.8
Engineering	14.2	2.2	2.7	19.3	16.9
Fine arts	4.1	1.2	3.0	4.1	127.6
Health sciences	26.6	3.7	2.2	7.0	37.7
Humanities	8.6	3.4	8.3	4.8	18.5
Natural sciences	24.8	2.4	3.4	11.4	20.0
Social sciences	13.0	4.5	4.7	9.4	21.9
Other fields	8.3	3.1	6.1	9.4	22.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.17--Mean number of publications by full-time regular faculty during the last two years, by type of publication and academic rank: Fall 1987

Academic rank	Refereed articles	Books, chapters	Book reviews	Other reports	Presentations, exhibitions
All ranks	2.0	0.6	0.6	1.5	4.3
Professor	2.9	1.0	1.0	1.9	4.7
Associate professor	2.3	0.8	0.6	1.6	4.6
Assistant professor	1.7	0.4	0.3	1.5	4.4
Instructor	0.3	0.2	0.2	0.9	2.8
Lecturer	0.6	0.2	0.4	1.1	3.1
Other ranks	0.2	0.1	0.1	0.5	1.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.18--Mean number of publications by full-time regular faculty during their career, by type of publication and academic rank: Fall 1987

Academic rank	Refereed articles	Books, chapters	Book reviews	Other reports	Presentations, exhibitions
All ranks	12.4	2.6	3.4	7.9	28.4
Professor	26.0	5.0	7.4	13.0	41.5
Associate professor	11.1	2.5	2.7	7.8	30.6
Assistant professor	4.5	0.9	0.8	4.9	16.8
Instructor	0.7	0.5	0.5	3.2	12.6
Lecturer	2.0	0.7	1.2	4.6	26.6
Other ranks	0.4	0.2	0.3	4.1	9.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.19--Mean number of publications by full-time regular faculty during the last two years, by type of publication and tenure status: Fall 1987

Tenure status	Refereed articles	Books, chapters	Book reviews	Other reports	Presentations, exhibitions
All faculty	2.0	0.6	0.6	1.5	4.3
Tenured	2.2	0.8	0.8	1.6	4.4
Tenure-track	2.2	0.6	0.4	1.3	4.6
No tenure system for faculty status or not on tenure track	1.3	0.5	0.2	1.6	3.8
No tenure system at institution	0.8	0.3	0.2	1.0	3.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.20--Mean number of publications by full-time regular faculty during their career, by type of publication and tenure status: Fall 1987

Tenure status	Refereed articles	Books, chapters	Book reviews	Other reports	Presentations, exhibitions
All faculty	12.4	2.6	3.4	7.9	28.4
Tenured	16.9	3.4	5.1	9.8	34.1
Tenure-track	7.1	1.4	1.0	5.1	19.2
No tenure system for faculty status or not on tenure track	5.2	1.2	0.7	6.4	17.7
No tenure system at institution	3.3	1.1	0.9	4.2	24.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.21--Mean number of classroom hours and student contact hours of full-time regular faculty, by type and control of institution: Fall 1987

Type and control of institution	Classroom hours	Student contact hours*
All institutions	9.8	302
Public research	6.6	259
Private research	5.9	229
Public doctoral	8.0	285
Private doctoral	6.9	201
Public comprehensive	10.5	319
Private comprehensive	10.9	276
Liberal arts	10.6	237
Public two-year	15.2	427
Other	9.5	329

* Number of hours per week spent teaching classes by the number of students in those classes.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

85

Table 2.22--Mean number of classroom hours and student contact hours of full-time regular faculty in four-year institutions, by program area: Fall 1987

Program area	Classroom hours	Student contact hours*
All program areas in four-year institutions	8.5	270
Agriculture/home economics	7.4	211
Business	8.6	310
Education	9.0	231
Engineering	8.3	259
Fine arts	11.4	267
Health sciences	7.3	251
Humanities	9.3	242
Natural sciences	8.0	325
Social sciences	8.1	305
Other fields	9.2	252

*Number of hours per week spent teaching classes by the number of students in those classes.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.23--Mean number of classroom hours and student contact hours of full-time regular faculty, by academic rank: Fall 1987

Academic rank	Classroom hours	Student contact hours*
All ranks	9.8	302
Professor	8.7	280
Associate professor	9.1	312
Assistant professor	9.4	262
Instructor	13.6	377
Lecturer	9.4	462
Other ranks	4.3	109

*Number of hours per week spent teaching classes by the number of students in those classes.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.24--Mean number of classroom hours and student contact hours of full-time regular faculty, by tenure status: Fall 1987

Tenure status	Classroom hours	Student contact hours*
All faculty	9.8	302
Tenured	9.8	315
Tenure-track	9.0	247
No tenure system for faculty status or not on tenure track	8.8	277
No tenure system at institution	13.5	372

*Number of hours per week spent teaching classes by the number of students in those classes.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 2.4: Attitudes about Workload and Time Allocation

This section examines data regarding faculty satisfaction with their workload and their job overall, the relationship between satisfaction and actual workload, and faculty preferences about spending more or less time on various kinds of activities.

Job Satisfaction and Workload

Across all full-time regular faculty, 85 percent were somewhat or very satisfied with their job, overall (50 percent were somewhat satisfied and 35 percent were very satisfied), and 73 percent were somewhat or very satisfied with their workload (38 percent somewhat satisfied and 35 percent very satisfied) (table 2.25). On both dimensions, there was a negative relationship between satisfaction and hours worked (tables 2.26 and 2.27).

There was a particularly strong relationship between satisfaction with one's workload and one's actual workload (table 2.26). Those who were very satisfied worked the fewest total hours (50), followed by those who were somewhat satisfied (53 hours), and then by those who were somewhat or very dissatisfied (57 hours).

Faculty who were very satisfied with their job overall worked an average of 51 hours in total (table 2.27). This workload was less than that of faculty who were somewhat satisfied (53 hours), which in turn was less than that of those who were somewhat or very dissatisfied (56 hours). This negative relationship between overall job satisfaction and number of hours worked was evident in each of the major types of institutions (four-year public, four-year private, and two-year public) (see table 2.27).

Preferences about Time Allocation

Of the major kinds of activities performed by the full-time regular faculty, research was the one that faculty were most likely to want to spend more time on, whereas administration was the activity they were most likely to want to spend less time on (table 2.28). One-half of the faculty indicated that if they were to change jobs they would want to do more research than they were doing currently, but only 10 percent to 15 percent wanted to do more teaching, advising, administration or service activities. Only 8 percent of the faculty wanted to spend less time on research, compared with 19 percent who wanted less time on advising, 30 percent less time on teaching, 35 percent less time on service activities, and 40 percent less time on administrative activities.

Preferences about research did not differ appreciably among the various kinds of four-year institutions, but faculty in public two-year colleges were less likely than average to want to spend more time on research (40 versus

50 percent overall) and more likely than average to want to spend the same amount of time on research (49 versus 42 percent overall) (table 2.29). Preferences about teaching showed the most variability of the various activities (table 2.30). Public two-year college faculty were less likely than average to want to do less teaching (22 percent), and they and private research faculty were more likely than average to prefer their current teaching level (65 and 71 percent, respectively, versus 60 percent overall). Public and private comprehensive and liberal arts faculty were more likely than average to want to spend less time teaching (37 to 39 percent).

There were only a few appreciable differences among faculty in different institutional types in preferences regarding time spent on advising, service, and administrative activities:

- Public research university faculty were less likely than average to prefer increased time advising students (10 percent versus 14 percent overall), while public two-year college faculty were more likely than average to want to do more of this (21 percent) (table 2.31).

- Faculty in public and private research universities were more likely than average to prefer a reduction in time devoted to service activities (42 and 46 percent versus 35 percent overall); whereas, public two-year college faculty were more likely than average to be satisfied with their current level of service activities (62 percent versus 55 percent overall) (table 2.32).

- Faculty in private research universities were less likely than average to want to spend more time on administrative activities (8 percent versus 15 percent overall) (table 2.33).

Table 2.25--Percentage distribution of satisfaction ratings of full-time regular faculty concerning their job overall and their workload: Fall 1987

	The job, overall	Workload
Very satisfied	35	35
Somewhat satisfied	50	38
Somewhat dissatisfied	12	20
Very dissatisfied	3	7

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.26--Mean number of hours worked by full-time regular faculty, by satisfaction with the workload: Fall 1987

Satisfaction with workload	Total hours worked	Hours worked at this institution
All faculty	53	46
Very satisfied	50	44
Somewhat satisfied	53	46
Somewhat or very dissatisfied	57	50

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.27--Mean number of hours worked by full-time regular faculty, by satisfaction with the job overall and type and control of institution: Fall 1987

Overall job satisfaction	Total hours worked	Hours worked at this institution
All institutions	53	46
Very satisfied	51	45
Somewhat satisfied	53	47
Somewhat or very dissatisfied	56	49
Four-year public		
Very satisfied	54	48
Somewhat satisfied	54	49
Somewhat or very dissatisfied	57	50
Four-year private		
Very satisfied	52	46
Somewhat satisfied	53	47
Somewhat or very dissatisfied	55	49
Two-year public		
Very satisfied	45	39
Somewhat satisfied	48	40
Somewhat or very dissatisfied	50	43

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.28--Percentage of full-time regular faculty who would like to do less, the same amount, or more of various kinds of work activities: Fall 1987

	If changed jobs, would want to do:		
	Less of this	Same amount	More of this
Research	8	42	50
Teaching	30	60	11
Advising students	19	67	14
Service activities	35	55	10
Administration	40	45	15

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.29--Percentage of full-time regular faculty who would like to do less, the same amount, or more research, by type and control of institution: Fall 1987

Type and control of institution	If changed jobs, would want to do:		
	Less research	Same amount	More research
All institutions	8	42	50
Public research	7	44	50
Private research	4	42	54
Public doctoral	11	40	49
Private doctoral	7	39	53
Public comprehensive	8	37	54
Private comprehensive	8	37	55
Liberal arts	7	38	55
Public two-year	11	49	40
Other	10	49	41

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.30--Percentage of full-time regular faculty who would like to do less, the same amount, or more teaching, by type and control of institution: Fall 1987

Type and control of institution	If changed jobs, would want to do:		
	Less teaching	Same amount	More teaching
All institutions	30	60	11
Public research	27	63	10
Private research	24	71	5
Public doctoral	28	59	13
Private doctoral	35	52	13
Public comprehensive	37	53	10
Private comprehensive	39	52	9
Liberal arts	38	51	12
Public two-year	22	65	12
Other	24	66	10

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.31--Percentage of full-time regular faculty who would like to do less, the same amount, or more advising students, by type and control of institution: Fall 1987

Type and control of institution	If changed jobs, would want to do:		
	Less advising	Same amount	More advising
All institutions	19	67	14
Public research	21	69	10
Private research	18	72	11
Public doctoral	22	64	14
Private doctoral	31	56	14
Public comprehensive	20	67	13
Private comprehensive	21	68	10
Liberal arts	19	67	14
Public two-year	14	65	21
Other	20	65	10

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.32--Percentage of full-time regular faculty who would like to do less, the same amount, or more service activities, by type and control of institution: Fall 1987

Type and control of institution	If changed jobs, would want to do: Less service	Same amount	More service
All institutions	35	55	10
Public research	42	50	8
Private research	46	46	8
Public doctoral	39	49	12
Private doctoral	28	52	20
Public comprehensive	33	57	11
Private comprehensive	35	55	10
Liberal arts	33	57	9
Public two-year	27	62	11
Other	28	56	16

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 2.33--Percentage of full-time regular faculty who would like to do less, the same amount, or more administration, by type and control of institution: Fall 1987

Type and control of institution	If changed jobs, would want to do:		
	Less administration	Same amount	More administration
All institutions	40	45	15
Public research	44	43	14
Private research	46	46	8
Public doctoral	38	45	17
Private doctoral	34	51	15
Public comprehensive	40	44	16
Private comprehensive	37	47	15
Liberal arts	39	44	17
Public two-year	37	46	18
Other	41	38	21

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 2.5: Summary

During the 1987 fall term, full-time regular faculty in higher education institutions spent an average of 53 hours on work and unpaid service activities. The vast majority of this time (87 percent) was spent on work at the institution of employment. Faculty in research and public doctoral universities tended to work longer hours than average (total work hours or hours at the institution), whereas those in public two-year colleges worked fewer hours than average.

The three professorial ranks did not differ appreciably from one another in hours worked, and faculty in all three professorial ranks worked more hours than those in the nonprofessorial ranks (instructors, lecturers, and others). This pattern held true even when the analysis was limited to four-year schools. Contrary to claims made by many critics of the tenure system, there also were no appreciable differences in workload of tenure-track and tenured faculty at four-year institutions.

On average, full-time regular faculty spent 56 percent of their time on teaching activities, 16 percent on research, 13 percent on administration, and 16 percent on other activities. As expected, faculty in research and doctoral institutions spent more time than average on research, while those in public-two year colleges spent almost no time on this activity. Faculty in public two-year colleges spent a higher than average percentage of time on service activities.

NSOPF did not find major differences across the three professorial ranks in time allocation. Associate and full professors spent only slightly less time on teaching activities than assistant professors, and this was made up for not by a greater amount of time on research but rather by a greater amount of time on administrative activities.

During the two years preceding the survey, full-time regular faculty produced an average of 2.0 articles in refereed journals; 0.6 books, book chapters, and monographs; 0.6 book reviews; 1.5 other reports (articles in nonrefereed journals and research or technical reports disseminated internally or to clients); and 4.3 professional presentations and exhibitions. Faculty in public and private research universities averaged about twice as many refereed articles and books/book chapters/monographs as faculty across all institutions. Public two-year faculty produced lower than average numbers of all kinds of publications and presentations during the two years preceding the survey.

NSOPF data provided no evidence of a decline in research productivity as faculty moved up in rank. During the two years preceding the survey, full professors produced more refereed articles, books/chapters/monographs, and book reviews than assistant professors or faculty in the nonprofessorial ranks. Similarly, during the two-year period, tenured faculty produced equivalent or greater numbers of all kinds of publications than their tenure-track and non-tenure-track colleagues.

Across all full-time regular faculty, 85 percent were somewhat or very satisfied with their job, overall (50 percent were somewhat satisfied and 35 percent were very satisfied), and 73 percent were somewhat or very satisfied with their workload (38 percent somewhat satisfied and 35 percent very satisfied). On both dimensions, there was a negative relationship between satisfaction and hours worked (i.e., faculty who worked more hours per week were less satisfied). This negative relationship persisted even when the results were broken out by broad types of institutions (four-year public, four-year private, and two-year public).

Of the major kinds of activities performed by the full-time regular faculty, research was the one on which faculty were most likely to want to spend more time; whereas, administration was the activity on which they were most likely to want to spend less time. One-half of the faculty indicated that if they were to change jobs they would want to do more research than they were doing currently, while 40 percent indicated that they would like to spend less time on administrative activities.

Chapter 3: Faculty Compensation

Section 3.1: Background

Total faculty compensation has two components: direct monetary compensation and employee benefits. Direct monetary compensation (henceforth, simply "compensation") includes the salary from the primary institution of employment, salary from other institutions, consulting income, and income from other outside sources. Employee benefits most commonly include retirement plans, subsidized health care, and life and disability insurance. Other employee benefits that are sometimes provided include subsidized tuition for children and spouses, child care, wellness programs, and so on.

Not surprisingly, issues related to compensation rather than employee benefits have received the most attention from researchers interested in higher education faculty. One such issue concerns salary disparities among academic fields and between academe and comparable professions in industry and government. During the 1970s and 1980s, faculty salaries did not keep pace with those in comparable professions in industry and government, and in the 1970s faculty salaries did not keep pace with inflation (Hansen, 1986; Wagner, 1986; Brown, 1991). As one consequence, in some disciplines, particularly engineering and the applied sciences, a larger percentage of doctoral recipients now go into industry than ever before. At the same time, some have argued, the non-university demand for engineers and scientists has driven up university salaries in these disciplines, and as universities attempt to attract and retain faculty in high-demand disciplines by offering higher salaries, increased salary disparities between disciplines have resulted (Fairweather, 1989). The combination of faculty shortages in particular fields (Lozier & Dooris, 1988), increased salary disparities between fields, and increased employment opportunities for doctoral recipients outside academe present a major policy dilemma for higher education administrators and policymakers.

Another major issue regarding faculty compensation concerns the relationship between compensation and institutional reward structures. Bowen and Schuster (1986) found that faculty are rewarded primarily through tenure and promotion, and that faculty are rewarded more for their research and scholarship efforts than for their teaching and service efforts. Bowen and Schuster (1986) also found this emphasis in reward structure varies by type of institution, although they suggest that the differences between comprehensive colleges and doctorate-granting universities may be narrowing; that is, research and publication are becoming more universal in their standing in the reward structure. Whether compensation also is related to research and publication (across types of institutions) remains an empirical question. Further, if compensation is related to research and publication for younger faculty but not for older, tenured faculty, as suggested by Tuckman (1987), questions about the relationship between compensation and research and publication among senior faculty remain unanswered.

Although benefits issues typically have taken a back seat to compensation issues, they too have received increased attention in recent years. For example, faced with limited resources for salaries and an increasingly demanding workforce, some higher education institutions have experimented with their employee benefit packages, introducing cafeteria-style benefit packages, innovative retirement programs, child care, wellness programs, and housing or mortgage assistance, yet no systematic assessment has been made of the frequency of these offerings.

NSOPF provides an opportunity to explore data concerning these particular issues with a variety of descriptive statistics regarding full-time, regular faculty compensation across higher education institutions and program areas.[1] This chapter presents simple descriptive statistics describing the relationship between employee benefits and type and control of institution and between compensation and each of the following:

- Characteristics of the institution,
- Demographic and academic characteristics of faculty,
- Job satisfaction, and
- Levels of faculty teaching, scholarship, and research.

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[1] Additional NSOPF data on compensation and employee benefits are presented in Faculty in Higher Education Institutions, 1988.

105

Section 3.2: Compensation and Employee Benefits, by Institutional Characteristics

This section presents overall data on compensation and employee benefits and discusses their relationship to type and control of institution and the relationship between compensation and an organization's collective bargaining status.

Overall Compensation Data

Across all full-time regular faculty in higher education institutions, mean total compensation for the 1987 calendar year was $48,701. Table 3.1 provides the detailed categories of sources of compensation (see question 40 in the faculty questionnaire, appendix C) and the mean amount of income received from each source. For each source, the mean was calculated as a mean of all faculty (regardless of whether an individual received income from that particular source).

By far the main source of compensation was the basic salary from the institution, which averaged $39,439 and accounted for an average of 81 percent of the total. The next largest share, $1,727, was for other teaching at the employing institution not included in the basic salary (e.g., summer session). Consulting and freelance work; medical, legal, or psychological counseling services; and other supplements from the institution (e.g., for administration, research, coaching sports) constituted the next-largest sources of additional income, averaging $1,655, $1,293, and $1,239, respectively. An average of less than $1,000 was earned from any of the other sources.

For all subsequent analyses of compensation, the sources were grouped into five main categories, as follows:

- Basic salary: the amount indicated by the respondent under a category called simply "basic salary."
- Other income from the academic institution: income, including the estimated value of nonmonetary compensation, for administration, research, coaching sports, summer session teaching, or other activities not included in their basic salary.
- Consulting: consulting, consulting business, legal or medical services, psychological counseling, freelance work, professional performances or exhibitions, speaking fees, and honoraria.
- Other outside income: income from other academic institutions, self-owned business other than consulting, royalties, commissions, nonmonetary compensation from other sources, retirement income, grants or research income, and any other employment.
- Total earned income: the sum of the above categories.

Type and Control of Institution

Compensation

Table 3.2 presents mean income in each of the five income categories for all higher education institutions and by institutional type. Faculty employed by public and private research universities had higher than average total earned incomes and basic salaries. For example, the mean basic salary was $47,780 for public research faculty and $52,709 for private research faculty, 21 and 34 percent higher, respectively, than the overall mean of $39,439. In contrast, basic salaries and total earned income at private comprehensive, public two-year, other specialized, and, especially, liberal arts institutions, were lower than the overall mean. The mean basic salary for faculty at liberal arts colleges was $28,769, 27 percent below the overall mean and only slightly over one-half (55 percent) of the mean basic salary at the top-paying private research institutions.

Faculty in liberal arts and public comprehensive institutions had lower than average other income from the institution and consulting income. Faculty in public two-year colleges also tended to have very low consulting income ($691, versus an overall average of $3,285), whereas faculty in private research institutions earned much more than the average from consulting ($7,011).[2] These patterns of compensation reflect what one would expect to find and are consistent with other compensation studies (Hansen, 1986).

Employee Benefits

A wide variety of employee benefits were available to faculty and are presented here in four parts (because of space limitations for each table). Percentages reported are based on those respondents who could provide an answer.[3] Table 3.3 presents the percentages of faculty who reported having a retirement plan to which their institution made contributions, a retirement plan to which they made contributions but their institution did not, subsidized medical insurance or medical care, subsidized dental insurance or dental care, subsidized life insurance, and subsidized disability insurance.

Virtually all faculty in each of the various types of institutions reported that medical insurance and retirement plans to which the institution made contributions were available to them. Subsidized life insurance and disability insurance also were available to the vast majority in each type of institution. Dental insurance, which a decade ago was quite rare, was available to 70 percent of faculty overall, although it was still not the norm in liberal arts institutions, where only 39 percent of the faculty reported that this benefit was available to them. Finally, retirement plans to which the faculty made contributions but the institution did not (typically offered in addition to plans to which the institution makes contributions) were available to 39 percent of the faculty. These were more common than average at public research universities and less common than average at private comprehensive, liberal arts, and other specialized institutions.

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[2] Mean other income from the institution for faculty in private research institutions also appears to be much larger than the overall average, but the difference is not statistically significant. Similarly, none of the means for other outside income is statistically different from the overall mean.

[3] That is, those who indicated that they did not know if a particular benefit was available to them were deleted from the base.

Table 3.4 presents part II of the employee benefits: tuition remission/grants at this or other institutions for the spouse, tuition remission/grants at this or other institutions for children, subsidized child care, free or subsidized wellness or health promotion programs, paid maternity leave, and paid paternity leave.

Both tuition for spouse and tuition for children were available to slightly over one-half of the faculty. Both were far more likely to be available in private than in public institutions (undoubtedly reflecting the relatively high tuition costs at private institutions). Ninety percent or more of faculty at private research, private comprehensive, and liberal arts institutions (but only 77 percent of those at private doctoral institutions) reported the availability of tuition remission/grants for their children; whereas, only 35 percent of faculty in public research and public two-year institutions reported having this benefit.

Subsidized wellness or health promotion programs, another relatively new phenomenon, were available to 53 percent of the faculty, with little variation across types of institutions. (The exception was that only 27 percent of faculty in the "other," specialized, institutions reported having these programs.) In contrast, subsidized child care was still very uncommon--available to only 7 percent of faculty overall, with no institution types being appreciably higher. Paid paternity leave was similarly rare--available to 9 percent of male faculty. Paid maternity leave was available to 55 percent of female faculty and was particularly common at public research universities, where 68 percent received this benefit. (The percentage for private research universities also appears relatively large, but the difference between it and the overall percentage is not statistically significant.)

The third set of employee benefits is presented in table 3.5. They include subsidized housing/mortgages and institutional or departmental funds for professional association memberships, for workshop or conference registration fees, etc., and for professional travel. Subsidized housing or mortgages were available to only 7 percent of faculty at all institutions, and to essentially no faculty (2 percent) at public doctoral, public comprehensive, or at public two-year institutions. They appeared to be available to a relatively high percentage of private research faculty (24 percent), but, again, this figure is not statistically different from the overall percentage.

The vast majority of faculty reported that their institutions provided at least some funds for workshop/conference registration fees (82 percent) and professional travel (90 percent), but only about one-third (34 percent) said funds for professional association memberships were available. Interestingly, liberal arts and public two-year institutions, which tended to pay relatively low salaries, were more likely than average to provide funds for memberships and conference registration; whereas, research universities (both public and private) were less likely than average to pay for conference registration, and public research universities were less likely than average to pay for memberships.

The fourth table concerning employee benefits presents, from the institution survey, the percentage of institutions that provided a flexible benefits (or "cafeteria-style") plan to at least some of their full-time faculty (table 3.6). (This question was not asked of faculty respondents.) Across all higher education institutions, 16 percent reported that they had a flexible benefits plan in place. There were no statistically significant differences across types of institutions.

Overall, there was no evidence that any of the types of institutions provided total benefits packages that were better or worse than those provided by other institutions. On the contrary, the various types of institutions tended to be far more similar in the benefits they provided than in their salary levels.

Collective Bargaining Status

Across all higher education institutions, faculty in those that were unionized[4] had about the same mean salary as those in nonunionized institutions, but faculty in nonunionized institutions had somewhat higher mean total earned income ($50,204 vs. $45,932), outside consulting income ($3,753 vs. $2,422) and other outside income ($2,710 vs. $1,799) (table 3.7).

The patterns of findings were quite different for four-year public institutions, four-year private institutions, and two-year public institutions.[5] In four-year public institutions, where 37 percent of the faculty were in unionized institutions, there were no appreciable differences in compensation between unionized and nonunionized faculty. In four-year private institutions where only 10 percent of the faculty were in unionized institutions, those who were in unionized schools earned basic salaries that averaged 13 percent less than those of their counterparts in nonunionized schools and had total earned incomes that averaged 17 percent less. However, the opposite pattern was found in two-year public institutions (where 69 percent of the faculty were in unionized institutions). Faculty in unionized two-year institutions averaged 12 percent higher basic salaries and 8 percent higher total earned income than those in nonunionized schools. These findings regarding the relationship between collective bargaining status and compensation are particularly interesting because earlier findings have been contradictory and tend to be rather dated (Barbezat, 1987).

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[4] I.e., institutions at which at least some faculty were legally represented by a union or other association for purposes of collective bargaining.

[5] These and subsequent analyses of compensation by type of institution and any other variable were done with just these three categories of institutional type, because the sample size was not large enough to support comparisons by all nine types of institutions.

Table 3.1--Mean income for full-time regular faculty, by source of income: Fall 1987

Source	Mean	Percent of total
Total	$48,701	100
Basic salary	39,439	81
Other teaching at this institution not included in basic salary (e.g., for summer session)	1,727	4
Outside consulting, consulting business, or freelance work	1,655	3
Legal or medical services or psychological counseling	1,293	3
Supplements from this institution not included in basic salary (for administration, research, coaching sports, etc.)	1,239	3
Self-owned business (other than consulting)	821	2
Royalties or commissions	494	1
Other income from this institution	482	1
Any other employment [other than at an academic institution]	430	1
Employment at another academic institution	324	1
Speaking fees, honoraria	226	<1
Retirement income	167	<1
Nonmonetary compensation from this institution (e.g., food, housing, car)	140	<1
Professional performances or exhibitions	111	<1
Other sources	153	<1

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.2--Mean income for full-time regular faculty, by source of income and type and control of institution: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All institutions	$48,701	$39,439	$3,588	$3,285	$2,389
Public research	58,309	47,780	4,415	3,962	2,154
Private research	74,732	52,709	9,715	7,011	5,297
Public doctoral	55,511	43,636	3,679	6,433	1,763
Private doctoral	55,715	47,105	2,037	5,227	3,346
Public comprehensive	42,965	36,830	2,505	1,918	1,712
Private comprehensive	42,210	32,030	2,514	4,483	3,183
Liberal arts	32,740	28,769	1,586	916	1,469
Public two-year	38,539	32,470	2,943	691	2,435
Other	43,618	33,476	2,856	3,455	3,830

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.3--Percentage of full-time regular faculty who reported having each of several specified types of employee benefits, by type and control of institution (Part I): Fall 1987

	Retire. plan, instit.	Retire. plan, self	Medical insurance	Dental insurance	Life insurance	Disability insurance
All institutions	94	39	98	70	86	83
Public research	97	50	99	86	86	86
Private research	97	43	97	58	91	93
Public doctoral	95	41	97	67	86	78
Private doctoral	96	34	99	74	93	94
Public comprehensive	94	36	98	66	84	79
Private comprehensive	94	30	99	57	89	89
Liberal arts	96	28	98	39	89	87
Public two-year	91	39	98	83	84	77
Other	89	26	97	64	83	81

NOTE: Includes only those who could provide an answer for a specific employee benefit.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.4--Percentage of full-time regular faculty who reported having each of several specified types of employee benefits, by type and control of institution (Part II): Fall 1987

	Tuition for spouse	Tuition for children	Child care	Wellness program	Paid maternity leave	Paid paternity leave
All institutions	54	56	7	53	55	9
Public research	39	35	5	61	68	10
Private research	74	93	10	59	78	2
Public doctoral	49	53	6	62	58	5
Private doctoral	69	77	11	57	50	11
Public comprehensive	50	43	8	53	50	11
Private comprehensive	86	90	3	41	39	3
Liberal arts	87	90	7	46	46	9
Public two-year	37	35	9	51	56	13
Other	53	63	4	27	36	10

NOTE: Includes only those who could provide an answer for a specific employee benefit. Maternity leave includes only women; paternity leave includes only men.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.5--Percentage of full-time regular faculty who reported having each of several specified types of employee benefits, by type and control of institution (Part III): Fall 1987

		Institutional or departmental funding for:		
	Housing/ mortgage subsidy	Professional association memberships	Workshop/ conference registration	Professional travel
All institutions	7	34	82	90
Public research	11	22	71	89
Private research	24	32	67	83
Public doctoral	2	32	80	90
Private doctoral	6	45	84	94
Public comprehensive	2	26	86	94
Private comprehensive	2	43	92	93
Liberal arts	12	50	89	92
Public two-year	2	40	90	90
Other	13	50	86	85

NOTE: Includes only those who could provide an answer for a specific employee benefit.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.6--Percentage of higher education institutions with flexible benefits plans for full-time regular faculty, by type and control of institution: Fall 1987

	Percent		Percent
All institutions	16	Four-year, by type:	
Four-year public	12	Research	14
Four-year private	18	Doctoral	20
Two-year public	21	Comprehensive and liberal arts	16

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, institution survey.

Table 3.7--Percent of full-time faculty in unionized institutions and mean income for full-time regular faculty, by source of income, type and control of institution, and union status of institution: Fall 1987

	Percent of faculty unionized	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All institutions	35	$48,701	$39,439	$3,588	$3,285	$2,389
Unionized		45,932	38,588	3,123	2,422	1,799
Not unionized		50,204	39,901	3,840	3,753	2,710
Four-year public	37	51,642	42,541	3,512	3,701	1,887
Unionized		50,836	42,647	3,367	3,180	1,641
Not unionized		52,121	42,478	3,598	4,011	2,034
Four-year private	10	51,372	39,706	4,273	4,358	3,035
Unionized		43,387	34,992	2,329	4,491	1,575
Not unionized		52,239	40,218	4,485	4,343	3,193
Two-year public	69	38,539	32,470	2,943	691	2,435
Unionized		39,581	33,780	2,989	747	2,065
Not unionized		36,239	29,578	2,841	566	3,254

NOTE: Unionized institutions are those in which at least some faculty were legally represented by a union or other association for purposes of collective bargaining. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 3.3: Demographic and Academic Characteristics Related to Compensation

This section examines compensation in relation to age, tenure status, academic rank, time in rank, time at institution, highest degree, and program area. While separate tables are presented for each of these characteristics in relation to compensation, characteristics like age, tenure status, academic rank, time in rank and time at the institution all define a constellation of shared characteristics. For example, older faculty members are more likely to be in rank longer and to have been employed by the institution for a longer period of time than their younger counterparts. Similarly, faculty members who have been at the institution longer are more likely to have a higher rank than those at the institution for a shorter period of time, and those with longer time in rank are more likely to have achieved tenure. The interrelationships among these characteristics lead to an expectation of similar patterns of compensation, especially income from basic salary, for older, tenured faculty members who have longer time in rank and have been at the institution for a longer period of time. And, these patterns should be distinct from those of younger, nontenured faculty with less longevity either in rank or at the institution. In considering the results of this section, particularly in terms of age-related characteristics, the reader should keep these relationships in mind.

Age

As expected, compensation was positively related to age, with the mean basic salary and total earned income of the two youngest age groups (under 30 and 30 to 44) less than those of their older colleagues (table 3.8). For basic salary, all age groups 45 or older were higher than the overall mean, while the two youngest groups were below average. Total earned income showed a similar pattern except that the mean total income of the middle age group (45 to 54) was not different from the overall mean. The under-30 age group's income was especially low. Their mean basic salary of $21,320 was only slightly more than one-half of the overall mean basic salary ($39,439), and their mean income from each of the other three sources also was below the overall average for that source. Interestingly, however, the mean incomes of the other age groups did not differ appreciably from the overall means of income from any source other than basic salary.

Tenure Status

Tenured faculty earned substantially higher basic salaries and total income than the three nontenured groups (faculty at institutions with no tenure systems, those in positions where tenure was not possible, and those on tenure-track but not yet tenured) (table 3.9). For example, the mean basic salary of tenured faculty was $43,851, compared to means between $30,764 and $33,883 for the nontenured groups. However, rather surprisingly, tenured faculty did not have higher than average consulting income or higher income than the overall average from either of the other two sources.

Academic Rank

Predictably, total earned income and basic salary were strongly related to academic rank (table 3.10). From a high of $62,182 for professors, mean total earned income declined by approximately $10,000 with each declining rank (associate professor, assistant professor, and instructor/lecturer/other). The pattern was not quite as clearcut for the three other sources of income, although professors had higher than average consulting income, and the non-professorial group (instructors, lecturers, etc.) was lower than average on this measure. Perhaps reflecting the typically more circumscribed roles played by non-professorial faculty, this group also had lower than average other income from the institution.

When average income by rank was examined by institutional type (public four-year, private four-year, and public two-year institutions), faculty in public and private four-year institutions total earned income declined with rank at a rate similar to that of faculty in all institutions (table 3.11). Further, faculty in each rank had lower total earned incomes and basic salary than faculty in the rank above. Moreover, at each rank, faculty in public and private four-year institutions did not differ from each other appreciably on either total earned income or basic salary.

The picture was quite different at public two-year institutions. Here, there was less of a differential in faculty incomes between the highest and lowest ranks (mean total earned income was $46,092 for professors and $35,185 for instructors and lecturers), and at each of the professorial ranks, mean income of public two-year faculty was lower than that of the corresponding rank at either the public or private four-year institutions. Interestingly, instructors/lecturers at two-year schools had somewhat higher total earned incomes and basic salaries than those at private four-year schools, but this difference is at least partly due to the fact that "instructor" is often the only rank used at two-year colleges, and thus is more likely to include relatively senior faculty than is the case at four-year institutions.

Time in Rank

Across faculty in all institutions, longer time in one's current rank was positively related to higher total earned income and basic salary (table 3.12). Mean basic salary, for instance, increased from $35,189 for faculty with 1 to 2 years in rank, to $38,133 for those with 3 to 7 years in rank, to $43,479 for those with 8 to 12 years in rank. Those with more than 12 years in their rank, however, did not earn appreciably more than the 8 to 12-year group. The general pattern of a positive relationship held true for each of the three major types of institutions (four-year public, four-year private, and two-year public).

This relationship was largely attributable to the fact that among the professorial ranks, faculty in the more senior academic ranks (and therefore earning higher salaries) tended to have longer time in rank than those in the more junior ranks (table 3.13). Professors averaged 10 years in rank, associate professors averaged 7 years, and assistant professors averaged 5 years. Faculty in the instructor/lecturer/other group averaged 7 years in rank. Within ranks, only professors and instructors/lecturers showed a significant positive correlation between time in rank and basic salary ($r = .10$ and $.29$, respectively). For assistant and associate professors, the correlation coefficients were not statistically significant, due, perhaps, to the restricted range of time in rank for these groups.

Time at the Institution

Similar to time in rank, time at the institution also was positively related to total earned income and basic salary at all institutions combined and at each of the three major types of institutions (table 3.14). For example, across all institutions, the mean basic salary for those at the institution less than 4 years was $32,558; whereas, for those who had been there 20 or more years, it was $44,831. Also, as with time in rank, these differences are largely attributable to the greater than average time at the institution of faculty in more senior ranks compared to those in more junior ranks (table 3.15). Professors averaged 17 years at the institution, associate professors averaged 12 years, assistant professors 5 years, and instructors/lecturers/others averaged 7 years. Within ranks, once again only professors and instructors/lecturers showed a significant positive correlation between time at the institution and basic salary ($r = .07$ and $.30$, respectively).

Highest Degree

Across all institutions, faculty holding doctorate degrees carried substantial compensation advantages over those holding master's or lower degrees (table 3.16). Those with a master's degree in turn had some compensation advantage over those with a lower degree, but the difference was not nearly as large. For example, mean total earned income was $55,125 for those with a doctorate, $36,211 for those with a master's, and $33,958 for those with some other degree. In the public and private four-year schools, the doctorate/master's differential was about the same as the overall difference. (There were too few cases of those with other kinds of degrees to provide reliable estimates.) Even in the two-year public schools, where there is generally believed to be less emphasis on highest degree, there was a positive relationship between highest degree and both basic salary and total earned income. Here, those with a doctorate had a mean total earned income of $43,701, compared to $38,069 for those with a master's, and $33,997 for those with some other degree.

Program Area

NSOPF data support other studies and popular perception in finding substantial disparities in compensation across academic disciplines (table 3.17). Among faculty in four-year institutions, those in health science program areas had the highest average basic salaries by far ($56,328), exceeding their closest comparison group (engineering) by 24 percent. Faculty in engineering earned an average basic salary of $45,387. Compared to the overall four-year school average of $41,540, faculty in fine arts, education, humanities, and social sciences earned relatively low basic salaries averaging between $33,534 and $37,209.

Similar patterns were found in total earned income and in consulting income. Thus, for example, health sciences faculty further increased their advantage with relatively high consulting income, while humanities and fine arts faculty fell even further behind. For the most part, the amount of other outside income did not vary across program areas. The average total earned income of health sciences faculty was $74,968; whereas, for humanities and fine arts faculty, it was $38,787 and $39,768, respectively.

Table 3.8--Mean income for full-time regular faculty, by source of income and age of faculty: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All faculty	$48,701	$39,439	$3,588	$3,285	$2,389
65 or older	52,096	45,164	2,284	3,043	1,604
60 to 64	57,589	49,238	3,038	3,519	1,794
55 to 59	55,101	43,280	3,244	4,475	4,103
45 to 54	51,539	41,524	3,560	3,761	2,695
30 to 44	42,962	34,470	4,040	2,592	1,860
Under 30	25,082	21,320	1,716	749	1,297

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.9--Mean income for full-time regular faculty, by source of income and tenure status: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All faculty	$48,701	$39,439	$3,588	$3,285	$2,389
Tenured	53,752	43,851	3,972	3,719	2,210
Tenure-track	42,680	33,883	3,836	2,802	2,159
No tenure system for faculty status or not on tenure track	41,538	32,690	1,821	3,219	3,808
No tenure system at institution	37,332	30,764	2,362	1,619	2,588

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.10--Mean income for full-time regular faculty, by source of income and academic rank: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All faculty	$48,701	$39,439	$3,588	$3,285	$2,389
Professor	62,182	50,562	3,867	4,966	2,788
Associate professor	50,191	39,446	4,933	3,798	2,014
Assistant professor	40,214	32,580	2,973	2,522	2,138
Instructor	32,403	27,133	2,204	643	2,423
Lecturer	31,171	26,657	1,235	1,162	2,118
Other	45,424	40,332	1,406	974	2,713

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.11--Mean income for full-time regular faculty, by source of income, academic rank, and type and control of institution: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All institutions	$48,701	$39,439	$3,588	$3,285	$2,389
Professor	62,182	50,562	3,867	4,966	2,788
Associate professor	50,191	39,446	4,933	3,798	2,014
Assistant professor	40,214	32,580	2,973	2,522	2,138
Instruc/lect/other	33,068	27,895	2,044	723	2,406
Public four-year	51,642	42,541	3,512	3,701	1,887
Professor	63,844	52,485	4,172	5,129	2,058
Associate professor	50,075	40,511	3,491	4,295	1,778
Assistant professor	40,383	34,040	3,149	1,679	1,514
Instruc/lect/other	32,681	27,666	1,651	887	2,477
Private four-year	51,372	39,706	4,273	4,358	3,035
Professor	65,225	51,473	3,284	5,978	4,490
Associate professor	52,563	38,955	8,216	3,813	1,579
Assistant professor	41,558	31,456	2,945	4,192	2,965
Instruc/lect/other	29,110	25,433	1,262	594	1,822
Public two-year	38,539	32,470	2,943	691	2,435
Professor	46,092	39,124	4,026	782	2,159
Associate professor	42,204	34,949	3,231	700	3,324
Assistant professor	35,502	30,150	2,331	790	2,231
Instruc/lect/other	35,185	29,575	2,470	660	2,480

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.12--Mean income for full-time regular faculty, by source of income, type and control of institution, and time in current rank: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All institutions	$48,701	$39,439	$5,588	$3,295	$2,389
More than 12 years	55,727	45,611	3,611	3,193	3,312
8-12	54,686	43,479	3,318	5,735	2,153
3-7	47,297	38,133	3,947	3,266	1,951
2 or fewer	43,212	35,189	3,480	2,154	2,390
Public four-year	51,642	42,541	3,512	3,701	1,887
More than 12 years	55,872	47,711	3,897	2,667	1,597
8-12	57,771	45,875	3,477	6,354	2,065
3-7	50,486	41,045	3,778	3,831	1,832
2 or fewer	44,339	37,249	2,764	2,210	2,117
Private four-year	51,372	39,706	4,273	4,358	3,035
More than 12 years	65,600	47,989	3,285	6,305	8,021
8-12	57,295	44,792	2,977	8,121	1,405
3-7	47,861	37,294	4,973	3,466	2,127
2 or fewer	44,450	35,245	4,797	2,398	2,010
Public two-year	38,539	32,470	2,943	691	2,435
More than 12 years	43,892	37,477	3,226	828	2,362
8-12	41,623	34,410	3,321	502	3,391
3-7	35,249	29,918	2,769	622	1,941
2 or fewer	33,636	27,899	2,181	926	2,630

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.13--Mean years in current rank and correlation (r) between time in rank and basic salary, by academic rank: Fall 1987

Rank	Mean years in rank	r	p*
Professor	10	.099	.0001**
Associate professor	7	-.007	.78
Assistant professor	5	.006	.83
Instructor/lecturer/other	7	.290	.0001**

*Significance level for the correlation coefficient under the hypothesis that the correlation coefficient is equal to zero.

**Significant.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

127

Table 3.14--Mean income for full-time regular faculty, by source of income, type and control of institution, and number of years faculty member had been at the institution: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All institutions	$48,701	$39,439	$3,588	$3,285	$2,389
20 or more years	53,779	44,831	3,239	3,408	2,300
10 to 19	52,593	42,657	3,908	3,677	2,351
7 to 9	49,438	38,159	4,199	4,377	2,703
4 to 6	45,465	36,773	3,979	2,452	2,261
Under 4	40,468	32,558	2,936	2,491	2,484
Public four-year	51,642	42,541	3,512	3,701	1,887
20 or more years	56,588	47,128	3,635	4,084	1,741
10 to 19	56,135	45,887	4,235	4,532	1,481
7 to 9	51,617	42,201	3,034	3,808	2,574
4 to 6	48,914	41,224	2,962	3,022	1,706
Under 4	42,450	34,683	2,967	2,452	2,349
Private four-year	51,372	39,706	4,273	4,358	3,035
20 or more years	55,351	45,603	2,694	4,098	2,955
10 to 19	58,449	44,908	4,112	4,552	4,877
7 to 9	55,523	38,432	7,240	8,747	1,103
4 to 6	49,820	37,186	6,881	2,840	2,913
Under 4	40,942	32,395	3,016	3,296	2,236
Public two-year	38,539	32,470	2,943	691	2,435
20 or more years	45,130	38,556	3,054	538	2,982
10 to 19	40,016	34,461	3,230	663	1,662
7 to 9	36,837	30,123	3,216	879	2,618
4 to 6	33,494	27,899	2,448	618	2,529
Under 4	32,401	25,909	2,203	806	3,482

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.15--Mean years at the institution and correlation (r) between time at the institution rank and basic salary, by academic rank: Fall 1987

Rank	Mean years at institution	r	p*
Professor	17	.075	.0003**
Associate professor	12	-.037	.14
Assistant professor	5	-.016	.54
Instructor/lecturer/other	7	.299	.0001**

*Significance level for the correlation coefficient under the hypothesis that the correlation coefficient is equal to zero.

**Significant.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.16--Mean income for full-time regular faculty, by source of income, type and control of institution, and highest degree: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All institutions	$48,701	$39,439	$3,588	$3,285	$2,389
Doctorate	55,125	44,119	4,262	4,337	2,406
Master's	36,211	30,521	2,295	1,268	2,126
Other	33,958	27,231	2,125	906	3,696
Four-year public	51,642	42,541	3,512	3,701	1,887
Doctorate	55,637	45,757	3,948	4,266	1,666
Master's	36,686	30,700	1,882	1,665	2,438
Other	33,509	24,332	1,786	878	6,513
Four-year private	51,372	39,706	4,273	4,358	3,035
Doctorate	56,684	43,183	5,088	5,064	3,350
Master's	32,615	27,151	1,445	2,030	1,989
Other	36,799	29,531	2,357	2,177	2,735
Two-year public	38,539	32,470	2,943	691	2,435
Doctorate	43,701	35,661	3,533	840	3,668
Master's	38,069	32,718	2,930	647	1,775
Other	33,997	27,768	2,268	632	3,329

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.17--Mean income for full-time regular faculty in four-year institutions, by source of income and program area: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All program areas	$51,546	$41,540	$3,781	$3,933	$2,292
Agriculture/ home economics	43,939	40,827	841	1,414	857
Business	52,008	39,345	4,892	5,264	2,507
Education	42,149	34,374	3,922	2,188	1,665
Engineering	57,624	45,387	4,955	4,172	3,109
Fine arts	39,768	33,534	1,724	2,291	2,219
Health sciences	74,968	56,328	6,120	9,431	3,089
Humanities	38,787	34,854	2,075	663	1,195
Natural sciences	48,620	40,246	3,803	2,293	2,277
Social sciences	46,014	37,209	2,802	2,807	3,197
Other fields	44,047	36,711	3,061	2,681	1,594

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 3.4: Compensation and Reward Structure

This section examines the relationships between compensation and faculty reward structures. Included are discussions of number of career publications, teaching emphasis, and research activities. Of these three measures of faculty activity, it should be noted that the number of career publications is an age-related variable.

Publication Rates

Across all higher education institutions, the number of publications[6] produced by faculty during their career was positively related to total earned income, basic salary, and consulting income (table 3.18). Mean total earned income ranged from $37,581 for faculty with fewer than 5 publications, up slightly to $43,576 for those with 5 to 35 publications, and then up substantially to $63,098 for those with 36 or more publications. This pattern also existed at public and private four-year institutions, but at public two-year institutions there were no appreciable differences in compensation by number of publications.

With the four-year institution data disaggregated by academic rank, there were no appreciable compensation differences between faculty who produced fewer than 5 publications and those who produced 5 to 35 at each rank (table 3.19). Those who produced 36 or more publications, however, tended to have considerably higher total earned income than their less prolific counterparts. This was true at all ranks except for the instructor/-lecturer/other group, where number of publications was not related to compensation at all.

Teaching Emphasis

Unlike publications, teaching seems to have an inverse relationship with compensation (table 3.20). Across all institutions, faculty whose teaching activities comprised less than 50 percent of their workload received substantially higher compensation in all income categories except "other outside income" than those who spent more than 50 percent of their time teaching. Basic salaries averaged $48,105 for the former group, compared to $34,296 for the latter, and mean total earned income was $62,093 and $40,754, respectively."

Because these findings might reflect the fact that those with less than a

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[6] Calculated as the sum of the career-total number of articles or creative works published in refereed professional or trade journals, chapters in edited volumes, textbooks, other books, monographs, and workshop/conference presentations (see faculty questionnaire item 30, appendix C).

50 percent teaching assignment were concentrated in research universities (which have significantly higher compensation in all categories), the results were analyzed by all nine types of institutions rather than the three broad categories used elsewhere. The overall pattern held for at least basic salary and total income for all types of institutions except liberal arts and public two-year colleges (see table 3.20). Moreover, the differences typically remained sizeable. This was especially true for private research faculty, where those with less than 50 percent of their time spent on teaching activities earned an average total income of $87,690, compared to an average of $52,754 for those whose teaching activities took more than 50 percent of their time.

The data also were disaggregated by academic rank for four-year institutions only (table 3.21). Here, too, the differences persisted, such that at each of the three professorial ranks, those who spent less than 50 percent of their time on teaching activities had about a $20,000 total income advantage over those who spent 50 percent or more of their time teaching.

Principal Investigator Status

Across all higher education institutions, faculty who were principal investigators (PIs) during the 1987 fall term had higher total earned income and basic salaries than those who were not (table 3.22). Mean total earned income for PIs was $60,955; whereas, for non-PIs, it was $45,264. This pattern held true for both public and private four-year institutions, but not for public two-year institutions. The pattern also generally persisted when the data were disaggregated by academic rank in the four-year institutions (table 3.23). The differences were especially large for professors. Mean total earned income for PI professors was $74,999, compared to $59,086 for their non-PI counterparts.

Table 3.18--Mean income for full-time regular faculty, by source of income, type and control of institution, and number of publications*: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All institutions	$48,701	$39,439	$3,588	$3,285	$2,389
36 or more publications	63,098	48,820	5,258	5,960	3,059
5 to 35	43,576	36,673	2,743	2,051	2,109
Fewer than 5	37,581	31,238	2,654	1,738	1,951
Public four-year	51,642	42,541	3,512	3,701	1,887
36 or more publications	62,343	49,681	4,513	6,048	2,101
5 to 35	44,697	38,335	2,718	1,842	1,801
Fewer than 5	40,600	33,896	2,812	2,256	1,635
Private four-year	51,372	39,706	4,273	4,358	3,035
36 or more publications	70,217	51,112	7,519	6,632	4,953
5 to 35	43,094	35,509	2,599	3,072	1,914
Fewer than 5	37,092	29,489	2,166	3,349	2,087
Public two-year	38,539	32,470	2,943	691	2,435
36 or more publications	42,222	34,587	3,178	1,686	2,771
5 to 35	41,267	34,266	3,107	702	3,193
Fewer than 5	36,158	30,934	2,836	516	1,872

*Calculated as the sum of the career-total number of articles or creative works published in refereed professional or trade journals, chapters in edited volumes, textbooks, other books, monographs, and workshop/conference presentations.

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.19--Mean income for full-time regular faculty in four-year institutions, by source of income, academic rank, and number of publications*: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All ranks	$51,546	$41,540	$3,781	$3,933	$2,292
36 or more publications	64,775	50,123	5,441	6,228	2,982
5 to 35	44,120	37,319	2,675	2,284	1,842
Fewer than 5	39,032	31,927	2,523	1,745	1,837
Professor	64,285	52,162	3,889	5,400	2,834
36 or more publications	72,086	56,960	4,338	7,201	3,587
5 to 35	51,792	44,254	2,840	2,737	1,960
Fewer than 5	52,435	45,620	4,511	1,725	578
Associate professor	50,906	39,991	5,070	4,134	1,711
36 or more publications	58,849	43,623	7,684	5,483	2,059
5 to 35	44,965	37,795	3,121	2,579	1,469
Fewer than 5	45,067	35,273	2,990	5,370	1,434
Assistant professor	40,874	32,961	3,064	2,729	2,120
36 or more publications	49,104	36,987	5,941	4,101	2,076
5 to 35	39,486	33,128	2,492	1,987	1,879
Fewer than 5	38,028	29,746	2,062	3,573	2,647
Instruc/lect/other	31,486	26,918	1,521	789	2,257
36 or more publications	33,855	27,641	1,335	1,900	2,979
5 to 35	35,515	30,328	1,363	1,038	2,786
Fewer than 5	28,378	24,548	1,669	429	1,731

*Calculated as the sum of the career-total number of articles or creative works published in refereed professional or trade journals, chapters in edited volumes, textbooks, other books, monographs, and workshop/conference presentations.

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.20--Mean income for full-time regular faculty in all institutions, by source of income, type and control of institution, and percentage of time spent on teaching activities: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All institutions	$48,701	$39,439	$3,588	$3,285	$2,389
Less than 50%	62,093	48,105	5,130	5,750	3,108
50% or more	40,754	34,296	2,673	1,822	1,963
Public research	58,309	47,780	4,415	3,962	2,154
Less than 50%	63,913	52,217	5,359	4,591	1,747
50% or more	49,742	40,995	2,972	3,000	2,775
Private research	74,732	52,709	9,715	7,011	5,297
Less than 50%	87,690	59,295	13,370	7,946	7,079
50% or more	52,754	41,538	3,516	5,425	2,274
Public doctoral	55,511	43,636	3,679	6,433	1,763
Less than 50%	66,495	50,350	4,153	9,862	2,130
50% or more	44,012	36,606	3,183	2,844	1,378
Private doctoral	55,715	47,105	2,037	5,227	1,346
Less than 50%	62,822	53,646	1,367	6,293	1,516
50% or more	46,061	38,219	2,948	3,779	1,114
Public comprehensive	42,965	36,830	2,505	1,918	1,712
Less than 50%	52,194	43,941	3,059	3,176	2,018
50% or more	39,820	34,407	2,316	1,489	1,608
Private comprehensive	42,210	32,030	2,514	4,483	3,183
Less than 50%	60,567	35,262	3,053	13,856	8,396
50% or more	36,397	31,006	2,344	1,515	1,533
Liberal arts	32,740	28,769	1,586	916	1,469
Less than 50%	34,303	29,685	1,708	1,222	1,688
50% or more	32,315	28,520	1,552	833	1,410
Public two-year	38,539	32,470	2,943	691	2,435
Less than 50%	40,213	33,423	2,678	979	3,134
50% or more	38,263	32,313	2,987	644	2,320

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.21--Mean income for full-time regular faculty in four-year institutions, by source of income, academic rank, and percentage of time spent on teaching activities: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All academic ranks	$51,546	$41,540	$3,781	$3,933	$2,292
Less than 50%	64,459	49,852	5,413	6,217	2,977
50% or more	41,733	35,224	2,541	2,196	1,772
Professor	64,285	52,162	3,889	5,400	2,834
Less than 50%	75,442	59,072	4,767	7,712	3,870
50% or more	53,221	45,298	3,016	3,102	1,805
Associate professor	50,906	39,991	5,070	4,134	1,711
Less than 50%	62,300	46,335	8,102	5,999	1,864
50% or more	42,144	35,112	2,738	2,700	1,594
Assistant professor	40,874	32,961	3,064	2,729	2,120
Less than 50%	52,636	40,680	4,356	5,026	2,574
50% or more	33,664	28,230	2,272	1,320	1,842
Instruc/lect/other	31,486	26,918	1,521	789	2,257
Less than 50%	42,031	35,903	1,983	1,283	2,862
50% or more	26,872	22,987	1,319	573	1,993

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.22--Mean income for full-time regular faculty in all institutions, by source of income, type and control of institution, and principal investigator status: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All institutions	$48,701	$39,439	$3,588	$3,285	$2,389
Principal investigator	60,955	49,090	5,278	4,611	1,977
Not principal invest.	45,264	36,732	3,114	2,913	2,505
Public four-year	51,642	42,541	3,512	3,701	1,887
Principal investigator	60,199	49,377	4,403	4,516	1,902
Not principal invest.	48,202	39,793	3,154	3,373	1,881
Private four-year	51,372	39,706	4,273	4,358	035
Principal investigator	67,230	51,769	7,763	5,594	2,104
Not principal invest	46,720	36,167	3,250	3,995	3,308
Public two-year	38,539	32,470	2,943	691	2,435
Principal investigator	39,699	33,283	3,267	673	2,476
Not principal invest.	38,464	32,418	2,922	692	2,433

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.23--Mean income for full-time regular faculty in four-year institutions, by source of income, academic rank, and principal investigator status: Fall 1987

	Total earned income	Basic salary from instit.	Other income from instit.	Consulting income	Other outside income
All academic ranks	$51,546	$41,540	$3,781	$3,933	$2,292
Principal investigator	62,318	50,098	5,416	4,841	1,963
Not principal invest.	47,651	38,446	3,189	3,604	2,411
Professor	64,285	52,162	3,889	5,400	2,834
Principal investigator	74,999	60,863	4,996	6,763	2,378
Not principal invest.	59,086	47,941	3,351	4,739	3,056
Associate professor	50,906	39,991	5,070	4,134	1,711
Principal investigator	56,987	43,981	6,870	4,282	1,854
Not principal invest.	48,492	38,407	4,355	4,075	1,655
Assistant professor	40,874	32,961	3,064	2,729	2,120
Principal investigator	45,148	37,675	4,641	1,899	934
Not principal invest.	39,587	31,542	2,589	2,979	2,477
Instruc/lect/other	31,486	26,918	1,521	789	2,257
Principal investigator	43,179	32,909	2,650	2,122	5,497
Not principal invest.	30,686	26,509	1,444	698	2,036

NOTE: The mean was calculated on the basis of all faculty rather than just those receiving some income from a given source. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 3.5: Compensation and Job Satisfaction

In this section, data are presented for levels of satisfaction with one's salary, one's benefits, and the job overall; and the relationship between two compensation measures (total earned income and basic salary) and satisfaction with salary and the job overall. For each of these analyses, data are presented for all full-time regular faculty, and, because compensation is so strongly related to academic rank, data also are presented by rank (professor, associate professor, assistant professor, and other).

Levels of Satisfaction with Salary, Benefits, and the Job Overall

As noted previously, the job satisfaction ratings were based on 4-point scales where 1 = very dissatisfied, 2 = somewhat dissatisfied, 3 = somewhat satisfied, and 4 = very satisfied.[7] The results for the three items discussed here are presented in table 3.24. Across all full-time faculty, the overwhelming majority (85 percent) were at least somewhat satisfied with their jobs overall (35 percent were very satisfied). A large majority (77 percent) also were satisfied with their benefits, but only 58 percent were satisfied with their salary.

Looking at the satisfaction ratings by academic rank indicate that professors were more satisfied than associate and assistant professors on all three dimensions, but they were more satisfied than the "other" group (mostly instructors) only with regard to salary. About two-thirds (65 percent) of professors were at least somewhat satisfied with their salary, compared to only about one-half (52 to 55 percent) of the other groups. With regard to the overall job, 43 percent of professors were very satisfied with their job overall, compared to 30 percent of associate professors, 26 percent of assistant professors, and 40 percent of the "other" group.

Relationship between Compensation and Job Satisfaction

Across all academic ranks, satisfaction with one's job overall and, especially, with one's salary was strongly related to compensation (table 3.25). The mean basic salary of those who were dissatisfied with their salary was $34,621, compared with $39,619 for those who were somewhat satisfied, and $49,901 for those who were very satisfied. For those who were dissatisfied with their job overall, the mean basic salary was $34,714, rising to $38,581 for those somewhat satisfied and $42,590 for those very satisfied.

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[7] For the results presented here, the two "dissatisfied" categories have been combined because for most of the items there were relatively few respondents in these two categories.

Additionally, within each academic rank, the income differences between each level of satisfaction persisted quite consistently for satisfaction with salary. For instance, the mean basic salary for professors who were dissatisfied with their salary was $43,806; for those who were somewhat satisfied, it was $50,625; and for those who were very satisfied, it was $59,573. For assistant professors, the comparable figures were $29,920, $33,449, and $39,656, respectively. With regard to overall job satisfaction, however, controlling for academic rank tended to diminish or eliminate the effect of income on satisfaction. However, professors' satisfaction with the job overall still tended to be related to their basic salary.

Table 3.24--Percentage of full-time regular faculty with different levels of satisfaction with their job overall, their benefits, and their salary, by academic rank: Fall 1987

	The job overall	Benefits	Salary
All academic ranks			
Dissatisfied	15	23	42
Somewhat satisfied	50	45	39
Very satisfied	35	32	19
Professor			
Dissatisfied	12	21	35
Somewhat satisfied	45	43	39
Very satisfied	43	36	26
Associate professor			
Dissatisfied	16	28	46
Somewhat satisfied	54	43	39
Very satisfied	30	29	15
Assistant professor			
Dissatisfied	19	25	48
Somewhat satisfied	55	47	38
Very satisfied	26	28	14
Instructor/lecturer/other			
Dissatisfied	14	20	45
Somewhat satisfied	46	45	38
Very satisfied	40	35	17

NOTE: The two "dissatisfied" categories have been combined because for most of the items there were relatively few respondents in these two categories.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 3.25--Mean total earned income and basic salary for full-time regular faculty, by academic rank, satisfaction with the job overall, and satisfaction with salary: Fall 1987

Satisfaction with the job overall			Satisfaction with salary		
	Total earned income	Basic salary from instit.		Total earned income	Basic salary from instit.
All ranks	$48,701	$39,439	All ranks	$48,701	$39,439
Dissatisfied	41,665	34,714	Dissatisfied	42,372	34,621
Somewhat satisfied	47,607	38,581	Somewhat satisfied	48,435	39,619
Very satisfied	53,167	42,590	Very satisfied	62,958	49,901
Professor	62,182	50,562	Professor	62,182	50,562
Dissatisfied	53,475	43,124	Dissatisfied	53,219	43,806
Somewhat satisfied	61,605	49,414	Somewhat satisfied	62,551	50,625
Very satisfied	65,540	53,867	Very satisfied	73,664	59,573
Associate professor	50,191	39,446	Associate professor	50,191	39,446
Dissatisfied	42,126	34,710	Dissatisfied	44,476	35,595
Somewhat satisfied	49,554	39,390	Somewhat satisfied	49,392	39,721
Very satisfied	55,542	42,028	Very satisfied	69,249	50,191
Assistant professor	40,214	32,580	Assistant professor	40,214	32,580
Dissatisfied	37,780	32,122	Dissatisfied	36,291	29,920
Somewhat satisfied	39,540	32,650	Somewhat satisfied	40,280	33,449
Very satisfied	43,259	32,513	Very satisfied	51,370	39,656
Instruc/lect/other	33,068	27,895	Instruc/lect/other	33,068	27,895
Dissatisfied	29,110	24,122	Dissatisfied	31,034	25,434
Somewhat satisfied	32,376	27,258	Somewhat satisfied	32,016	27,354
Very satisfied	35,182	29,893	Very satisfied	40,964	36,253

NOTE: The two "dissatisfied" categories have been combined because for most of the items there were relatively few respondents in these two categories.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 3.6: Summary

For the 1987 calendar year, the mean total earned income for full-time regular faculty in higher education institutions was $48,701. Eighty-one percent of this, or $39,439 was accounted for by the individual's basic salary from the institution. The average faculty member earned only $1,655 in consulting income. Although this figure was considerably higher in the major research universities, even in those institutions it accounted for an average of less than 10 percent of total faculty income. Thus, suggestions that faculty are abandoning teaching to become wealthy from consulting activities would seem to be unfounded.

As expected, there were major differences in compensation across the various types of institutions and program areas. On the average, compensation in public two-year colleges was considerably less than in four-year institutions, and among the four-year institutions, liberal arts colleges' salaries were substantially lower than those provided by other higher education institutions. Across program areas, health sciences faculty stood out as having far higher mean total earned income than their colleagues in any of the other disciplines. At the other end of the distribution, education, humanities, and fine arts faculty had lower than average mean total earned incomes.

Predictably, age, tenure status, highest degree attained, and, especially, academic rank were positively related to compensation. Time in rank and time at the institution were positively related to compensation only for full professors and the instructor/lecturer/other group. Interestingly, for associate and assistant professors, how long they had been in their rank or at their current institution were not related to their level of compensation.

As noted in Section 3.1, Bowen and Schuster (1986) found that [four-year institution] faculty are rewarded more for their research and scholarship than for teaching and service activities. NSOPF provided strong support for these earlier findings. At four-year institutions (but not at public two-year institutions), total career publications (as a measure of scholarship) and current principal investigator status (as a measure of research) both were positively related to compensation--this was true, for the most part, even when academic rank was held constant. Most striking, however, was the negative relationship between emphasis on teaching and compensation. Even when type of institution (using the nine Carnegie categories) and academic rank were held constant, faculty who spent less than 50 percent of their time on teaching activities had considerably higher levels of compensation than those who spent 50 percent or more of their time teaching. These data lend support to the notion that compensation is related to research and publication (rather than teaching) at an increasingly broad array of higher education institutions. However, there was no support for the concern that compensation is related to research and publication for the more junior ranks but not for the more senior ranks.

Finally, the data indicated that faculty generally were not very satisfied with their salaries, but that for the most part, at each academic rank, a higher level of satisfaction was associated with a higher average salary. Satisfaction with one's job overall also was positively related to salary, but this relation largely reflected increasing job satisfaction with increasing academic rank.

Chapter 4: Women and Minorities in Higher Education

Section 4.1: Background

An area of interest to researchers and planners is the current status of women and minorities in higher education institutions. Women and minorities historically have been underrepresented among faculty in higher education institutions (Bowen & Schuster, 1986). Moreover, women have tended to be disproportionately represented in the lower academic ranks and pay scales, while carrying relatively heavy undergraduate teaching responsibilities (Gmelch, Wilke, & Lavrich, 1986).

This chapter uses NSOPF data on full-time regular faculty to describe the distribution of higher education faculty by gender and race/ethnicity in the 1987-88 school year. Information will be presented for women and men, and minorities[1] and nonminorities[2] on the following variables:

- Type and control of institution;
- Program area;
- Highest degree;
- Employment status (academic rank and tenure status);
- Age;
- Employment experience (years since highest degree, years at the institution, and years in rank);
- Characteristics of the work (workload, time allocation, principal investigator status, and number of publications);
- Compensation (basic salary and total income); and
- Attitudes about the job.

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[1] Included in this group are American Indians, Asian Americans, blacks, and Hispanics. Because of the relatively small sample size of these populations in the study, it was not possible to present statistics for the separate populations. The results of comparisons between minorities and nonminorities may or may not be true for a specific minority population.

[2] Whites, non-Hispanics.

Section 4.2: The Distribution of Higher Education Faculty by Gender and Race/Ethnicity

Distribution by Type and Control of Institution

Across all higher education institutions, women comprised 27 percent of full-time regular faculty. Women represented a lower than average percentage of full-time faculty at public and private research institutions (21 and 19 percent, respectively); and women represented a higher than average percentage of full-time faculty at public two-year institutions (38 percent) (table 4.1).

Minorities comprised 11 percent of the full-time regular faculty. Asians comprised 4 percent, blacks 3 percent, Hispanics 2 percent, and American Indians 1 percent.[3] The only significant deviations from the overall average of minority group percentages were the lower than average percentages of Asians in public two-year schools (2 percent) and the "other" (specialized) schools (1 percent), and the lower than average percentages of Hispanics in public doctoral institutions (1 percent) (table 4.2).

Distribution by Program Area

In four-year higher education institutions, women comprised 25 percent of the full-time regular faculty. Women represented a higher than average percentage of faculty in education (38 percent) and the health sciences (32 percent), and they represented a lower than average percentage of faculty in the natural sciences (15 percent) and in engineering (3 percent) (table 4.3).

Minorities comprised 11 percent of the faculty at four-year institutions--5 percent were Asian, 3 percent were black, 2 percent were Hispanic, and 1 percent were American Indian. Asians represented a higher than average percentage of faculty in engineering (15 percent) (table 4.4).

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[3] Details do not add to total because of rounding.

Table 4.1--Percentage distribution of full-time regular faculty, by gender and type and control of institution: Fall 1987

Type and control of institution	Male	Female
All institutions	73	27
Public research	79	21
Private research	81	19
Public doctoral	76	24
Private doctoral	73	27
Public comprehensive	71	29
Private comprehensive	72	28
Liberal arts	71	29
Public two-year	62	38
Other	79	21

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.2--Percentage distribution of full-time regular faculty, by race/ethnicity and type and control of institution: Fall 1987

Type and control of institution	American Indian	Asian	Black	Hispanic	White
All institutions	1	4	3	2	89
Public research	1	5	2	2	90
Private research	0	4	6	5	85
Public doctoral	1	5	2	1	91
Private doctoral	<1	10	2	1	86
Public comprehensive	1	6	4	2	88
Private comprehensive	1	4	2	1	91
Liberal arts	1	3	8	1	87
Public two-year	1	2	3	3	91
Other	0	1	3	1	95

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.3--Percentage distribution of full-time regular faculty in four-year institutions, by gender and program area: Fall 1987

Program area	Male	Female
All program areas in four-year institutions	75	25
Agriculture/home economics	63	37
Business	78	22
Education	62	38
Engineering	97	3
Fine arts	76	24
Health sciences	68	32
Humanities	70	30
Natural sciences	85	15
Social sciences	77	23
Other fields	77	23

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.4--Percentage distribution of full-time regular faculty in four-year institutions, by race/ethnicity and program area: Fall 1987

Program Area	American Indian	Asian	Black	Hispanic	White
All program areas in four-year institutions	1	5	3	2	89
Agriculture/home economics	2	1	<1	3	94
Business	1	9	3	1	86
Education	1	1	7	3	88
Engineering	0	15	1	1	83
Fine arts	1	2	3	3	91
Health sciences	1	7	3	1	88
Humanities	1	2	3	4	91
Natural sciences	1	7	1	2	89
Social sciences	1	2	5	2	89
Other fields	1	4	6	1	88

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 4.3: Differences between Male and Female Faculty

In chapter three, the results indicated a strong relationship between compensation and age-related variables. That is, older, more senior faculty, on average, tended to have higher total income and a higher basic salary. Additionally, chapter 3 and previous work with the NSOPF data demonstrated a strong relationship between compensation and the program area in which faculty teach (Russell, et al., 1990c). Since the data in this section will indicate that women faculty tend to be younger and less senior than men and women are more likely than men to be in lower-paying program areas, any inferences from the comparisons between men and women's compensation presented in this section should be tempered.

Highest Degree

Among full-time regular faculty in four-year higher education institutions, men were considerably more likely than women to have a doctorate or first-professional degree (e.g., Ph.D., Ed.D., M.D., D.D.S., L.L.B.) (table 4.5). Ninety-two percent of men in doctoral institutions had a doctorate or first-professional degree, compared with 76 percent of women. In other four-year institutions, the comparable percentages were 74 and 53.[4] In public two-year institutions, however, there was no appreciable difference between men and women on this measure (22 and 15 percent, respectively, had a doctorate or first-professional degree).

Because of the rather large differences between men and women on this measure in four-year schools and because achievement of the doctorate or comparable degree can convey substantial advantages (see, for example, section 3.3), this variable is used as a control in many of the subsequent analyses of the status of men and women faculty in higher education.

Employment Status

Academic Rank

At four-year institutions, men were considerably more likely than women to hold the rank of full professor; whereas, women were considerably more likely to be assistant professors or to have a nonprofessorial rank, such as instructor or lecturer. At doctoral institutions, for example, 47 percent of men and 14 percent of women were full professors; 20 percent of men and 42 percent of women were assistant professors; and 4 percent of men and 16 percent of women were in the "other" (nonprofessorial) ranks (table 4.6). Data for other four-year institutions were similar. At public two-year institutions, however, there were no appreciable differences between the distributions of men and women across academic ranks. These patterns of findings did not change when the analyses were restricted to faculty who had received a doctorate or first-professional degree (table 4.7).

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[4] Because of the relatively small sample of women in NSOPF (about 1,700), it was necessary to use more general categories of institutions in these analyses. Specifically, institutions are grouped into three major types: doctoral (research and other doctoral institutions), other four-year (comprehensive and liberal arts institutions), and public two-year. Also, the group of "other" (specialized) institutions is not included for these comparisons.

Tenure Status

Tenure status distributions of men and women show that in doctoral institutions, 68 percent of men were tenured, compared with 38 percent of women (table 4.8). Conversely, 22 percent of men and 35 percent of women were in tenure-track positions, and 9 percent of men and 21 percent of women were in non-tenure-track positions. In other four-year institutions, men also were more likely than women to be tenured (66 versus 46 percent, respectively), and they were less likely than women to be in non-tenure-track positions (7 versus 20 percent). However, men and women in these other four-year institutions were equally likely to be in tenure-track positions. In public two-year institutions, again, there were no differences between men and women in tenure status.

With one notable exception, these patterns of findings did not change appreciably when the analyses were restricted to those faculty who had received a doctorate or first-professional degree (table 4.9). The exception was that among faculty with the doctorate, a greater percentage of women than men were tenured in public two-year schools (87 versus 69 percent).

Age

In each of the three major types of institutions, male faculty tended to be somewhat older than female faculty (table 4.10). Across all institutions, the mean age for men was 48 years, compared with 45 years for women. However, when academic rank was held constant, most of the age differences disappeared. The exceptions were that in the "other" (nonprofessorial) ranks, men were slightly older than women (43 versus 41), and, among assistant professors, women were slightly older than men (42 versus 40).

Employment Background

Years Since Highest Degree

With all ranks combined and within each academic rank except assistant professor, men averaged more years since their highest degree than women (table 4.11). Within academic ranks, the largest differences were for full professors. Male full professors averaged 22.3 years since their highest degree, compared with 18.6 years for women. Across all ranks, men averaged

17.0 years and women averaged 11.9 years since their highest degree.

Years at the Institution

With the data aggregated across all academic ranks, men averaged more years at the institution than women (an overall average of 12.5 years for men versus 9.0 for women, with little variation among types of schools) (table 4.12). However, within a rank, men and women generally had been at the institution the same number of years, with a few exceptions. The exceptions were as follows: Among full professors in all types of institutions, men averaged 17.5 years at the institution, and women averaged 16.0. Among full professors in doctoral institutions, the comparable figures were 17.1 and 14.9, respectively. And among nonprofessorial faculty in all types of institutions, men averaged 7.9 years and women averaged 6.2 years.

Years in Rank

With all ranks and all institutions combined, men averaged more years in their current academic rank than women (8.2 versus 5.9 years) (table 4.13). This same relative pattern persisted in each of the three major types of institutions. Within academic ranks, the differences between male and female full professors were statistically significant for all institutions combined and for both types of four-year institutions. For example, at doctoral institutions, male full professors averaged 10.9 years in that rank, whereas women averaged 6.8 years. Differences between men and women at the associate professor level also were statistically significant for all institutions combined, doctoral institutions, and public two-year institutions. At doctoral institutions, male associate professors averaged 7.2 years in that rank, compared with 5.4 years for women.

Characteristics of the Work

Workload

With all institutions and ranks combined, men worked more hours at the institution, at other paid activities, and in total than women; whereas, women worked more hours at unpaid professional service activities than men (table 4.14). On the average, men worked about 47 hours per week at the institution, 4 hours at other paid activities, 2 hours at unpaid professional service activities, and 54 hours in total. The comparable numbers of hours for women were 44, 3, 3, and 50, respectively.

Differences in hours worked at the institution tended to persist at the two types of four-year institutions with all ranks combined, but there were no appreciable differences in hours worked at the institution for men and women with the same rank. For total hours worked, the only differences were at the rank of assistant professor for all institutions combined (men averaged 55 hours, compared with 51 hours for women), and in the nonprofessorial ranks at doctoral institutions (men averaged 53 hours, versus 46 hours for women).

Time Allocation

In general, there were few differences between men and women in how they spent their time. However, across all higher education institutions, female faculty spent a larger proportion of time than male faculty on activities related to teaching (61 versus 54 percent, respectively); whereas, men spent more time than women on research (18 versus 12 percent) and consulting (other work) (7 versus 5 percent) (table 4.15).[5]

Additionally, when institutional type and faculty rank were held constant, the only difference was among assistant professors in doctoral institutions. Women in these positions spent 50 percent of their time on teaching activities and 22 percent on research, whereas men spent 42 percent of their time on teaching and 30 percent on research (table 4.15). Similarly, among assistant professors in the professional program areas (business, education, engineering, and health sciences) (table 4.16), women spent 53 percent of their time on teaching activities and 15 percent on research, whereas men spent 42 percent of their time on teaching and 26 percent on research. This difference, however, may be due largely to differences in the distribution by program areas of men and women.

Principal Investigator Status

Consistent with the findings with regard to time allocation, differences between the percentages of male and female faculty who were principal investigators during the 1987 fall term were statistically significant only for assistant professors in doctoral institutions and in professional program areas. Forty-two percent of male assistant professors in doctoral institutions were principal investigators, compared with 21 percent of their female counterparts (table 4.17). In professional program areas, the comparable percentages were 35 for male assistant professors and 14 for females (table 4.18).

Publications

NSOPF's most sensitive measure of productivity in publications was the number of refereed articles, books, and chapters published during the 2 years preceding the survey (see section 2.3). With all academic ranks combined, men had a higher publication rate than women across all institutions, at doctoral institutions, and at other four-year institutions, but not at public two-year institutions (table 4.19). Within each academic rank, however, publication rate differences were statistically significant only for assistant professors and the nonprofessorial ranks. In both cases, these differences were significant across all institutions and at doctoral institutions. At doctoral institutions, male assistant professors published an average of 4.2 refereed articles, books and chapters during the past 2 years, whereas the average for women was 2.2. For men and women in the nonprofessorial ranks at doctoral institutions, the comparable figures were 2.1 and 0.5.

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[5] See section 2.2 for a definition of each of these time allocation categories.

Compensation

Across all higher education faculty, men earned an average basic salary of $42,322 and an average total income of $53,318, whereas the figures for women were $31,755 and $36,398, respectively (table 4.20). Part of the difference between men and women in each of these income categories was due to a higher proportion of men than women being in the more senior academic ranks and at the more highly paid research universities. However, differences between men's and women's income still persisted after controlling for academic rank and type of institution.

In doctoral institutions, the mean total earned income of men was higher than that of women in the ranks of full professor, assistant professor, and instructor.[6] Men in each of these three ranks had average total incomes of $74,638, $50,732, and $39,005, respectively, whereas the comparable figures for women were $63,266, $39,260, and $27,350. On the other hand, basic salaries among men and women differed only for assistant professors; men in this rank earned a mean basic salary of $40,296, compared with $34,504 for women.

In other four-year institutions, the mean total earned income of men was higher than that of women among full professors and assistant professors, but basic salary was different only among full professors. Male full and assistant professors had mean total incomes of $51,592 and $37,807, while for women in these ranks it was $41,278 and $29,183. Men who were full professors earned an average basic salary of $43,957, compared with $38,076 for women.

In public two-year colleges, there were few differences between men and women in basic salary. However, men tended to have higher total incomes than women at all ranks except that of full professor (table 4.20).

Differences between men's and women's incomes were even greater when the data were broken down by rank and type of program area rather than by rank and type of institution[7] (table 4.21). The differences were particularly large in the professional program areas.[8] For example, male full professors in professional program areas had a mean total income of $81,702 and a mean basic salary of $62,073, compared with $57,146 and $49,016 (respectively) for women. In the arts and sciences, male full professors had a mean total earned income of $57,098, versus $48,966 for women; basic salaries of men and women professors in professional program areas and the arts and sciences, however, were not appreciably different.

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[6] Note that this analysis does not control completely for type of institution because research and other doctorate-granting institutions are combined in this group of doctoral institutions.

[7] The sample of women was too small to allow for simultaneous controls for program area and type of institution. Additionally, the sample was too small to allow for estimates by individual program area (e.g., education, engineering, natural sciences) by rank.

Attitudes about the Job

Even though there were sizeable differences between the amount of compensation received by men and women, there were almost no differences between them in their level of satisfaction with their salary (table 4.22). In the two cases where there were differences, more women than men were satisfied with their salary. Across all ranks at public two-year institutions (where average basic salaries were $30,713 for women and $33,541 for men) (table 4.20), 72 percent of the women were somewhat or very satisfied with their salary, compared with 63 percent of the men (table 4.22). And among full professors at other four-year institutions (where basic salaries averaged $38,076 for women and $43,957 for men) (table 4.20), 74 percent of the women and 64 percent of the men were somewhat or very satisfied with their salary (table 4.22).

There also were essentially no appreciable differences between men and women in their level of satisfaction with their job overall. The single exception was among full professors at other four-year institutions. In this group, 87 percent of men were somewhat or mostly satisfied, compared with 77 percent of women (table 4.22).

However, there were a number of differences between the various groups of men and women in their level of satisfaction with their workload and their mix of responsibilities (table 4.22). Differences in satisfaction with workload mostly were in doctoral institutions. At each of the three professorial ranks here, men were more likely than women to be satisfied with their workload, although there were no appreciable differences in the average number of hours worked. At each of the three ranks, between 59 and 63 percent of women were mostly or very satisfied with their workload, compared with 73 to 82 percent of men.

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[8] Business, education, engineering, and the health sciences are included in this categorization. This does not completely control for program area since the income differences for faculty in engineering and education are significant (faculty in engineering have significantly higher incomes than faculty in education), and the proportion of women in engineering is significantly lower than average and the proportion of women in education is significantly higher than average.

Differences between men and women in their level of satisfaction with their mix of responsibilities were found among associate and assistant professors and other (nonprofessorial) faculty in doctoral institutions and among full professors and nonprofessorial faculty in other four-year institutions (table 4.22), although there were few differences between men and women in how they allocated their time (table 4.15).

Table 4.5--Percentage of male and female full-time regular faculty who had a doctorate or first-professional degree, by type of institution: Fall 1987

Type of institution	Male	Female
All institutions	74	50
Doctoral	92	76
Other four-year	74	53
Public two-year	22	15

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.6--Percentage distribution of male and female full-time regular faculty, by academic rank and type of institution: Fall 1987

	Professor		Assoc. prof.		Asst. prof.		Other ranks	
Type of institution	Male	Female	Male	Female	Male	Female	Male	Female
All institutions	42	16	26	23	20	36	11	26
Doctoral	47	14	28	28	20	42	4	16
Other four-year	42	16	28	24	23	39	7	21
Public two-year	25	16	13	14	14	18	48	52

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.7--Percentage distribution of male and female full-time regular faculty who had a doctorate or first-professional degree, by academic rank and type of institution: Fall 1987

	Professor		Assoc. prof.		Asst. prof.		Other ranks	
Type of institution	Male	Female	Male	Female	Male	Female	Male	Female
All institutions	49	24	28	30	19	39	4	6
Doctoral	49	18	28	33	20	42	3	7
Other four-year	50	29	27	30	20	38	3	3
Public two-year	45	48	20	14	12	16	23	23

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.8--Percentage distribution of male and female full-time regular faculty, by tenure status and type of institution: Fall 1987

Type of institution	Tenured		Tenure-track		No tenure system for faculty status or not on tenure track		No tenure system at institution	
	Male	Female	Male	Female	Male	Female	Male	Female
All institutions	65	45	20	25	7	17	8	12
Doctoral	68	38	22	35	9	21	2	5
Other four-year	66	46	24	28	7	20	4	6
Public two-year	61	59	9	9	3	8	26	23

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.9--Percentage distribution of male and female full-time regular faculty who had a doctorate or first-professional degree, by tenure status and type of institution: Fall 1987

Type of institution	Tenured		Tenure-track		No tenure system for faculty status or not on tenure track		No tenure system at institution	
	Male	Female	Male	Female	Male	Female	Male	Female
All institutions	69	51	22	33	6	12	4	4
Doctoral	70	44	21	38	7	16	2	2
Other four-year	70	56	23	31	4	8	3	4
Public two-year	69	87	11	7	3	2	17	4

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.10--Mean age of male and female full-time regular faculty, by academic rank and type of institution: Fall 1987

Type of institution	All ranks Male	All ranks Female	Professor Male	Professor Female	Assoc. prof. Male	Assoc. prof. Female	Asst. prof. Male	Asst. prof. Female	Other Male	Other Female
All instit's	48	45	54	53	47	47	40	42	43	41
Doctoral	48	43	54	53	46	46	38	40	37	40
Other four-year	48	45	53	54	48	49	41	43	42	39
Public two-year	48	46	53	53	50	45	46	47	46	44

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.11--Mean number of years since the highest degree for male and female full-time regular faculty, by academic rank and type of institution: Fall 1987

Type of institution	All ranks Male	All ranks Female	Professor Male	Professor Female	Assoc. prof. Male	Assoc. prof. Female	Asst. prof. Male	Asst. prof. Female	Other Male	Other Female
All instit's	17.0	11.9	22.3	18.6	16.0	13.6	9.4	8.7	12.3	9.9
Doctoral	18.0	11.1	24.0	20.7	16.1	13.2	8.4	7.4	9.1	9.2
Other four-year	16.1	11.6	20.1	17.6	16.1	14.3	9.1	8.8	10.9	8.2
Public two-year	16.2	13.1	18.3	16.5	17.5	13.1	14.7	13.6	14.1	11.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.12--Mean number of years at the institution for male and female full-time regular faculty, by academic rank and type of institution: Fall 1987

Type of institution	All ranks		Professor		Assoc. prof.		Asst. prof.		Other	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All instit's	12.5	9.0	17.5	16.0	11.9	11.4	5.2	5.7	7.9	6.2
Doctoral	12.3	8.0	17.1	14.9	11.4	11.2	3.9	4.6	5.0	5.2
Other four-year	12.8	8.7	18.0	16.8	12.6	11.8	5.9	5.9	5.1	4.0
Public two-year	13.2	11.0	18.5	17.6	14.2	11.3	9.7	9.2	10.4	8.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.13--Mean number of years in current academic rank for male and female full-time regular faculty, by academic rank and type of institution: Fall 1987

Type of institution	All ranks		Professor		Assoc. prof.		Asst. prof.		Other	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All instit's	8.2	5.9	10.4	7.3	7.3	5.7	4.9	4.9	7.6	6.4
Doctoral	8.2	5.2	10.9	6.8	7.2	5.4	4.1	4.4	4.2	5.6
Other four-year	8.0	5.8	10.1	7.7	7.6	6.5	5.6	5.4	4.8	4.4
Public two-year	9.3	7.3	9.5	8.0	7.9	4.7	6.3	5.8	10.4	8.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.14--Mean number of hours worked by male and female full-time regular faculty, by type of work, academic rank, and type of institution: Fall 1987

Academic rank and type of institution	Total hours worked		At this institution		Other paid activities		Unpaid professional activities	
	Male	Female	Male	Female	Male	Female	Male	Female
All institutions	54	50	47	44	4	3	2	3
Professor	54	52	48	46	4	2	3	4
Assoc. prof.	54	53	48	47	4	3	2	3
Asst. prof.	55	51	49	46	4	2	2	3
Other	49	46	42	39	5	3	2	3
Doctoral	56	54	51	49	4	2	2	2
Professor	57	57	50	52	4	2	3	3
Assoc. prof.	56	56	51	50	3	3	2	3
Asst. prof.	57	54	52	50	3	2	1	2
Other	53	46	48	40	4	3	1	2
Other four-year	53	50	46	44	4	3	3	4
Professor	52	52	46	46	3	2	3	4
Assoc. prof.	53	51	47	45	3	3	3	3
Asst. prof.	54	51	47	44	4	3	3	4
Other	50	47	40	41	7	3	3	4
Public two-year	48	46	40	40	4	3	3	3
Professor	47	45	40	41	4	1	4	3
Assoc. prof.	52	47	41	39	7	6	4	2
Asst. prof.	46	43	39	40	4	1	3	2
Other	47	44	40	38	4	2	3	4

NOTE: Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.15--Percentage of time spent on various activities by male and female full-time regular faculty, by academic rank and type of institution: Fall 1987

Academic Rank and type of institution	Teaching		Research		Admin.		Service		Other work		Prof'l devel.	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All institutions	54	61	18	12	13	13	3	4	7	5	4	5
Professor	50	58	20	15	16	17	3	3	7	3	4	4
Assoc. prof.	52	54	20	16	13	14	3	4	7	8	5	4
Asst. prof.	54	59	20	14	10	11	3	4	9	6	4	5
Other	65	68	6	5	11	11	4	5	8	4	7	7
Doctoral	41	49	29	22	14	13	2	3	9	8	4	5
Professor	40	43	29	28	17	20	2	2	8	4	4	4
Assoc. prof.	42	45	28	27	13	12	2	3	9	10	5	4
Asst. prof.	42	50	30	22	11	11	2	3	12	10	3	5
Other	48	62	19	8	8	15	3	3	12	3	9	9
Other four-year	62	65	11	8	14	13	4	5	6	4	4	5
Professor	61	61	11	10	16	18	4	4	5	3	3	5
Assoc. prof	62	60	11	9	13	17	4	4	5	5	4	5
Asst. prof.	65	66	11	9	9	11	4	5	6	4	4	5
Other	58	69	5	5	14	9	5	7	10	5	8	6
Public two-year	72	70	3	4	10	11	4	6	5	4	5	6
Professor	70	76	4	5	11	11	4	4	5	1	5	2
Assoc. prof.	71	69	4	3	11	9	4	4	6	10	4	4
Asst. prof.	73	72	5	4	9	9	4	6	4	3	4	5
Other	73	71	2	3	9	10	5	5	5	3	6	7

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.16--Percentage of time spent on various activities by male and female full-time regular faculty in four-year institutions, by academic rank and program area: Fall 1987

Academic rank and program area	Teaching		Research		Admin.		Service		Other work		Prof'l devel.	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All program areas	50	57	21	15	14	13	3	4	8	6	4	5
Professor	48	52	22	18	16	18	3	3	7	3	4	4
Assoc. prof.	51	52	21	18	13	14	3	3	7	8	4	4
Asst. prof.	52	58	22	16	10	11	3	4	10	7	3	5
Other	54	66	11	6	12	11	4	5	11	4	8	7
Professional 1/	42	51	23	16	14	15	3	4	13	8	5	6
Professor	41	43	23	23	18	23	2	3	11	3	5	5
Assoc. prof.	43	48	23	19	14	14	3	4	12	10	6	5
Asst. prof.	42	53	26	15	10	12	3	4	15	10	4	7
Other	42	57	15	6	14	19	4	6	16	4	9	8
Arts and sciences 2/	55	62	21	15	13	11	3	3	5	4	3	4
Professor	52	58	22	16	15	16	3	2	5	3	3	4
Assoc. prof.	55	56	21	18	13	14	3	3	4	5	4	4
Asst. prof.	61	63	19	16	9	10	3	4	4	4	4	3
Other	62	73	10	8	9	6	3	3	8	4	7	6
Other 3/	54	61	18	13	14	13	5	5	6	4	3	4
Professor	50	58	21	13	17	15	5	7	4	2	3	4
Assoc. prof.	56	55	17	16	12	17	6	3	6	6	3	3
Asst. prof.	56	61	18	17	11	12	5	3	8	4	3	3
Other	64	67	6	5	11	8	6	10	6	3	8	6

1/Includes business, education engineering, and health sciences program areas.

2/Includes arts, humanities, natural sciences, and social sciences program areas.

3/Includes agriculture, communications, continuing education, home economics, library science, theology, interdisciplinary, and all other program areas.

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.17--Percentage of male and female full-time regular faculty who were principal investigators during the 1987 fall term, by academic rank and type of institution: Fall 1987

Type of	All ranks		Professor		Assoc. prof.		Asst. prof.		Other	
institution	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All instit's	25	14	30	26	28	22	26	13	7	3
Doctoral	41	27	44	52	40	39	42	21	7	3
Other four-year	14	8	15	17	15	9	13	7	11	4
Public two-year	6	6	7	2	14	3	8	5	5	3

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.18--Percentage of male and female full-time regular faculty who were principal investigators during the 1987 fall term in four-year institutions, by academic rank and program area: Fall 1987

	All ranks		Professor		Assoc. prof.		Asst. prof.		Other	
Program area	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All program areas	30	18	33	33	30	25	29	14	9	4
Professional 1/	34	19	39	46	32	22	35	14	5	3
Arts and sciences 2/	27	19	29	30	27	25	24	15	15	6
Other 3/	27	13	31	11	32	30	22	12	10	0

1/Includes business, education engineering, and health sciences program areas.

2/Includes arts, humanities, natural sciences, and social sciences program areas.

3/Includes agriculture, communications, continuing education, home economics, library science, theology, interdisciplinary, and all other program areas.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.19--Mean number of refereed articles, books, and chapters published in the last two years by male and female full-time regular faculty, by academic rank and type of institution: Fall 1987

Type of institution	All ranks		Professor		Assoc. prof.		Asst. prof.		Other	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All instit's	3.1	1.7	4.1	3.6	3.4	2.8	2.7	1.6	0.9	0.3
Doctoral	5.2	3.4	6.0	7.4	5.2	4.8	4.2	2.2	2.1	0.5
Other four-year	1.6	1.1	2.0	1.5	1.5	1.3	1.5	1.1	0.5	0.6
Public two-year	0.6	0.5	0.7	1.7	0.5	0.5	0.5	0.5	0.7	0.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.20--Mean income of male and female full-time regular faculty, by type of income, academic rank, and type of institution: Fall 1987

Academic rank and type of institution	Total income		Basic salary	
	Male	Female	Male	Female
All institutions	$53,318	$36,398	$42,322	$31,755
Professor	64,007	48,582	51,555	43,157
Assoc. prof.	52,741	42,131	40,839	35,045
Asst. prof.	44,173	33,908	34,243	29,933
Other	37,158	28,200	30,108	25,263
Doctoral	65,023	43,747	50,529	36,990
Professor	74,638	63,266	58,589	53,749
Assoc. prof.	62,936	49,976	46,995	38,748
Asst. prof.	50,732	39,260	40,296	34,504
Other	39,005	27,350	32,391	25,555
Other four-year	43,893	31,767	36,209	28,287
Professor	51,592	41,278	43,957	38,076
Assoc. prof.	39,496	35,302	33,385	31,589
Asst. prof.	37,807	29,183	27,834	25,605
Other	36,438	24,915	29,701	21,613
Public two-year	41,171	34,223	33,541	30,713
Professor	47,748	41,694	39,265	38,751
Assoc. prof.	46,273	35,683	36,197	32,950
Asst. prof.	38,566	31,657	30,821	29,308
Other	37,280	31,941	30,226	28,567

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.21--Mean income of male and female full-time regular faculty in four-year institutions, by type of income, academic rank, and program area: Fall 1987

Academic rank and program area	Total income		Basic salary	
	Male	Female	Male	Female
All program areas	$56,148	$37,643	$44,514	$32,556
Professor	65,705	51,512	52,917	45,371
Assoc. prof.	53,297	43,072	41,398	35,379
Asst. prof.	44,920	34,355	34,692	30,172
Other	37,555	25,974	30,872	23,328
Professional 1/	71,290	42,799	53,267	35,716
Professor	81,702	57,146	62,073	49,016
Assoc. prof.	71,541	51,958	51,958	38,113
Asst. prof.	59,330	38,673	43,258	34,067
Other	48,888	27,925	41,088	25,661
Arts and sciences 2/	46,994	33,744	39,081	30,165
Professor	57,098	48,966	47,326	43,799
Assoc. prof.	41,738	34,740	35,073	31,882
Asst. prof.	33,339	30,057	27,698	26,491
Other	28,644	24,161	22,437	21,099
Other 3/	47,577	33,936	39,994	30,284
Professor	58,170	45,109	50,776	40,952
Assoc. prof.	45,360	40,930	35,530	37,329
Asst. prof.	35,951	31,181	29,668	26,871
Other	28,933	26,067	23,582	23,569

1/Includes business, education, engineering, and health sciences program areas.

2/Includes arts, humanities, natural sciences, and social sciences program areas.

3/Includes agriculture, communications, continuing education, home economics, library science, theology, interdisciplinary, and all other program areas.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.22--Percentage of male and female full-time regular faculty who were somewhat or very satisfied with various dimensions of their job, by academic rank and type of institution: Fall 1987

Academic rank and type of institution	Salary		Workload		Mix of responsibilities		The job overall	
	Male	Female	Male	Female	Male	Female	Male	Female
All institutions	59	56	75	67	74	64	86	84
Professor	64	71	77	64	77	69	89	82
Assoc. prof.	55	52	70	62	71	63	84	84
Asst. prof.	52	52	72	63	66	55	81	80
Other	58	53	84	81	83	76	85	88
Doctoral	60	52	79	66	77	60	86	83
Professor	65	69	82	59	79	72	89	83
Assoc. prof.	59	54	73	62	74	58	85	84
Asst. prof.	51	49	78	63	71	51	81	79
Other	58	40	82	83	92	78	80	89
Other four-year	56	51	66	64	67	59	84	81
Professor	64	74	66	59	72	58	87	77
Assoc. prof.	47	45	64	60	63	63	80	85
Asst. prof.	51	50	63	61	60	54	81	80
Other	53	41	81	77	83	65	83	83
Public two-year	63	72	82	73	82	78	90	90
Professor	65	75	77	77	87	83	94	95
Assoc. prof.	70	72	76	70	84	83	97	84
Asst. prof.	64	67	83	72	69	77	86	84
Other	62	70	86	83	83	85	90	90

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 4.4: Differences between Nonminority and Minority Faculty

Highest Degree

Across all higher education institutions, there were no appreciable differences between the percentages of nonminorities and minorities who had received a doctorate or first-professional degree (67 and 71 percent, respectively) (table 4.23). There also were no differences between the two groups on this measure at either doctoral or other four-year institutions.[9]

Employment Status

Academic Rank

There were no appreciable differences between the distribution of nonminorities and minorities across academic rank when the data were aggregated across all higher education institutions (table 4.24). However, there were differences in doctoral institutions, where a larger percentage of whites than minorities were full professors (41 versus 30 percent, respectively) and a correspondingly smaller proportion were assistant professors (24 versus 36 percent).[10]

Tenure Status

White faculty in all institutions combined and, especially, in doctoral institutions were more likely than their minority counterparts to hold tenured positions (table 4.25). In all institutions combined, 61 percent of nonminorities and 52 percent of minorities were tenured. In doctoral institutions, the comparable percentages were 64 and 44.

Age

Overall, nonminorities were slightly older than minorities, with mean ages of 47 and 45, respectively (table 4.26). When institutional type and academic rank were controlled, only at doctoral institutions were nonminority full professors older than their minority counterparts (54 years versus 51 years).

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[9] Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented in this section.

[10] Because of the small number of minority respondents in nonprofessorial ranks (instructors, lecturers, etc.), only the data from faculty in the three professorial ranks are presented in this section.

Employment Experience

Years Since Highest Degree

Consistent with the small difference in mean age of the two groups, nonminorities averaged slightly more years since their highest degree than minorities (15.8 versus 13.6 years) (table 4.27). However, within each academic rank, none of the observed minority-nonminority differences in years since highest degree were statistically significant.

Years at the Institution

Nonminorities also averaged slightly more years at their current institution than minorities (12 versus 10 years) (table 4.28). This overall difference, combining all academic ranks, persisted at both doctoral and other four-year institutions. It also persisted at the rank of full professor for all institutions combined and for doctoral institutions. At doctoral institutions, for example, nonminority faculty averaged 17 years at the institution, compared with an average of 13 years for minorities.

Years in Rank

Within most of the academic ranks and institutional types, nonminorities tended to have more years in their current rank than minorities (table 4.29). Across all faculty, nonminorities averaged 7.8 years in their rank, versus 5.9 for minorities. At the rank of full professor, nonminorities averaged 10.3 years in rank, compared with 7.8 for minorities; at the rank of associate professor, nonminorities averaged 7.1 years in rank, versus 5.3 for minorities; and at the rank of assistant professor, the comparable figures were 5.0 and 4.0 years in rank.

Characteristics of the Work

Across all academic ranks, nonminority faculty in doctoral institutions and across both types of four-year institutions worked slightly more hours per week than minorities (table 4.30). For example, at doctoral institutions, nonminorities averaged a total of 56 hours per week, and minorities averaged a total of 53. Within the three ranks at each type of four-year school, however, there were almost no differences between nonminorities and minorities in total hours worked, hours worked outside the institution, or hours spent on unpaid professional services. In contrast, there were differences between several of the groups in hours worked at the institution, with minorities working fewer hours on average than nonminorities. These differences occurred among full professors at all institutions combined and at other four-year institutions, and among associate professors at all institutions combined and at both types of four-year institutions.

There were no appreciable differences between nonminorities and minorities in how they allocated their time across major types of activities (table 4.31). There were no appreciable differences between nonminorities and minorities in the percentages who were principal investigator during the 1987 fall term (table 4.32). Nonminorities and minorities also did not differ appreciably in the number of refereed articles, books, and chapters that they had published during the 2 years preceding the survey (table 4.33). At all institutions combined and at each of the two types of four-year institutions, there were no appreciable differences between minorities and nonminorities in their mean total income or mean basic salary (table 4.34).

Attitudes

Even though minorities and nonminorities did not differ appreciably in their actual salaries, minorities generally were less likely to be satisfied with their salary than were nonminorities (table 4.35). Forty-nine percent of minorities and 59 percent of nonminorities were somewhat or very satisfied on this dimension of their job. Differences between the two groups also were statistically significant for full and assistant professors across all institutions, for all ranks of faculty (combined) at doctoral institutions, and for assistant professors at doctoral institutions. There were no appreciable differences between nonminorities and minorities on satisfaction with their workload, their mix of responsibilities, or their job overall.

Table 4.23--Percentage of nonminority and minority full-time regular faculty in four-year institutions with a doctorate or first-professional degree, by type of institution: Fall 1987

Type of institution	Nonminority	Minority
All institutions	67	71
Doctoral	89	88
Other four-year	68	72

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.24--Percentage distribution of nonminority and minority full-time regular faculty in four-year institutions, by academic rank and type of institution: Fall 1987

Type of institution	Professor		Assoc. prof.		Asst. prof.		Other	
	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority
All institutions	36	31	26	24	24	30	15	16
Doctoral	41	30	29	25	24	36	6	10
Other four-year	35	34	27	25	27	30	11	11

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented. Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.25--Percentage distribution of nonminority and minority full-time regular faculty in four-year institutions, by tenure status and type of institution: Fall 1987

Type of institution	Tenured		Tenure-track		No tenure system for faculty status or not on tenure track		No tenure system at institution	
	Nonmin.	Min.	Nonmin.	Min.	Nonmin.	Min.	Nonmin.	Min.
All institutions	61	52	21	29	10	12	9	7
Doctoral	64	44	23	37	11	16	2	2
Other four-year	61	53	25	28	11	11	4	8

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented. Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.26--Mean age of nonminority and minority full-time regular faculty in four-year institutions, by academic rank and type of institution: Fall 1987

Type of institution	All ranks		Professor		Assoc. prof.		Asst. prof.	
	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority
All institutions	47	45	54	52	47	46	41	40
Doctoral	47	43	54	51	46	45	39	38
Other four-year	47	47	53	53	48	47	42	43

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.27--Mean number of years since the highest degree of nonminority and minority full-time regular faculty in four-year institutions, by academic rank and type of institution: Fall 1987

Type of institution	All ranks		Professor		Assoc. prof.		Asst. prof.	
	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority
All institutions	15.8	13.6	22.1	19.7	15.4	15.5	9.3	7.8
Doctoral	16.9	13.3	24.0	20.8	15.5	15.3	8.2	7.4
Other four-year	14.9	13.7	20.4	19.3	15.6	16.0	9.3	7.2

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.28--Mean number of years at the institution for nonminority and minority full-time regular faculty in four-year institutions, by academic rank and type of institution: Fall 1987

Type of institution	All ranks		Professor		Assoc. prof.		Asst. prof.	
	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority
All institutions	12	10	18	14	12	11	6	5
Doctoral	12	9	17	13	11	11	4	4
Other four-year	12	10	18	16	13	10	6	5

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.29--Mean number of years in current academic rank for nonminority and minority full-time regular faculty in four-year institutions, by academic rank and type of institution: Fall 1987

Type of institution	All ranks		Professor		Assoc. prof.		Asst. prof.	
	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority
All institutions	7.8	5.9	10.3	7.8	7.1	5.3	5.0	4.0
Doctoral	7.8	5.1	10.9	7.2	7.0	4.9	4.2	3.9
Other four-year	7.5	6.2	10.0	8.5	7.5	5.9	5.7	4.0

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.30--Mean number of hours worked by nonminority and minority full-time regular faculty in four-year institutions, by type of work, academic rank, and type of institution: Fall 1987

Academic rank and type of institution	Total hours worked		At this institution		Other paid activities		Unpaid professional activities	
	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority
All institutions	53	50	47	43	4	4	3	3
Professor	54	53	48	44	3	4	3	4
Assoc. prof.	54	52	49	43	3	5	2	3
Asst. prof.	54	50	48	45	3	3	2	2
Doctoral	56	53	51	46	3	4	2	3
Professor	57	56	50	47	4	5	3	4
Assoc. prof.	56	54	51	46	3	6	2	2
Asst. prof.	56	53	52	48	3	3	2	1
Other four-year	52	50	46	42	3	4	3	3
Professor	53	50	47	43	3	4	3	3
Assoc. prof.	52	52	47	41	3	5	3	5
Asst. prof.	53	48	46	44	4	2	3	3

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented. Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.31--Percentage of time spent on various activities by nonminority and minority full-time regular faculty in four-year institutions, by type of institution: Fall 1987

Type of institution	Teaching		Research		Admin.		Service		Other work		Prof'l devel.	
	Nonmin.	Min.	Nonmin.	Min.	Nonmin.	Min.	Nonmin.	Min.	Nonmin.	Min.	Nonmin.	Min.
All institutions	56	55	16	17	13	11	4	4	7	8	4	5
Doctoral	43	43	27	27	14	11	3	2	9	11	4	5
Other four-year	63	62	10	12	13	13	4	5	5	4	4	4

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented. Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.32--Percentage of nonminority and minority full-time regular faculty who were principal investigators during the 1987 fall term, by type of institution: Fall 1987

Type of institution	Nonminority	Minority
All institutions	22	24
Doctoral	38	35
Other four-year	11	20

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.33--Mean number of refereed articles, books, and chapters published in the last two years by nonminority and minority full-time regular faculty in four-year institutions, by type of institution: Fall 1987

Type of institution	Nonminority	Minority
All institutions	2.7	2.9
Doctoral	4.9	4.4
Other four-year	1.4	1.8

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.34--Mean income of nonminority and minority full-time regular faculty in four-year institutions, by type of income and type of institution: Fall 1987

	Total income		Basic salary	
Type of institution	Nonminority	Minority	Nonminority	Minority
All institutions	$48,931	$46,743	$39,501	$38,912
Doctoral	60,981	55,316	47,735	46,186
Other four-year	40,450	40,184	33,938	33,948

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 4.35--Percentage of nonminority and minority full-time regular faculty in four-year institutions who were somewhat or very satisfied with various dimensions of their job, by type of institution: Fall 1987

Type of institution	Salary		Workload		Mix of responsibilities		The job overall	
	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority	Nonminority	Minority
All institutions	59	49	73	74	72	71	85	84
Doctoral	59	47	76	79	73	73	86	79
Other four-year	55	47	65	64	65	65	83	84

NOTE: Because of the small number of minority respondents in public two-year institutions, only the data from faculty in four-year institutions are presented.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 4.5: Summary

Although the NSOPF sample size was too small to allow for simultaneous control of the numerous relevant variables in the tables presented in this report, it appeared that women were having a more difficult time achieving parity with men than minorities were with nonminorities. For example, there was a lower than average percentage of women at the more prestigious and higher paying types of institutions (research universities) and a higher than average percentage of women at public two-year institutions, where salaries were lower than average. Moreover, there were sizeable differences between men and women in both total income and basic salary, and most of these persisted even when men and women were at the same academic rank and in the same type of institution, or at the same academic rank. In contrast, nonminorities and minorities did not differ appreciably in their mean total income or mean basic salary at any level of disaggregation of the data that was possible. Interestingly, however, there were almost no differences between men and women in their level of satisfaction with their salary; whereas, minorities generally were less likely to be satisfied with their salary than were nonminorities.

Some (but most likely not all) of the salary differences between men and women perhaps can be explained by the findings that, even within academic rank, men were somewhat older and had slightly more years since their highest degree and more years in their current rank. However, the comparisons by race/ethnicity similarly found that nonminorities generally were somewhat older and had spent more years at the institution and in their current rank than minorities, yet there were no salary differences.

Moreover, in breakdowns by academic rank and type of institution, there were few differences between men and women in hours worked; whereas, there were differences between minorities and nonminorities in hours worked at the institution, with minorities working fewer hours on average than nonminorities. There were no appreciable differences between minorities and nonminorities in how they allocated their time, and few differences between men and women. When there were differences between men and women, women tended to allocate more of their time to teaching rather than research; whereas, men allocated more of their time to research.

Chapter 5: Part-Time Faculty in Higher Education

Section 5.1: Background

An area of interest to researchers and planners is the increasing reliance on part-time faculty in higher education institutions. From 1960 to 1984 there was a three-fold increase in part-time higher education faculty (Gappa, 1984). Moreover, the number of part-time faculty is likely to continue to increase for several reasons: the increase in instruction-related costs relative to revenue, the effort by academic administrators to achieve flexibility in staffing, the number of persons with advanced degrees who have been unable to obtain full-time teaching positions, the shortage of potential full-time faculty in many science and engineering fields, the growth of community and junior colleges (which traditionally have employed relatively large percentages of part-time faculty), and the expansion of lifelong learning programs (Bowen & Schuster, 1986; Fairweather, 1989).

The growth of the part-time faculty has raised questions about compensation and fringe benefits, academic governance, workload, and quality of programs (Leslie, Kellams, & Gunne, 1982; Mortimer, Bagshaw, & Masland, 1985). Some academic officials consider part-time faculty as less well trained than their full-time counterparts, often questioning their contribution to teaching and research (Head & Kelley, 1978). Others raise questions about the potentially negative effect on instruction when programs rely too heavily on part-time faculty (Leslie et al., 1982).

Another question of relevance is whether part-time faculty are best characterized as aspiring academics who are frustrated by the lack of available full-time positions, as individuals who simply want some extra income while maintaining contact with their intellectual interests, or as "gypsy moths" flitting back and forth between various institutions. Finally, of general interest is the simple question, "who are part-time faculty in American higher education"?

Little is known about part-time faculty, including their background, their qualifications, and their distribution across disciplines and institutions. The study of part-time faculty is made complex by variations in the backgrounds and roles played by part-time faculty in specific institutions and programs; both depend on the specific needs of the institution in which part-time faculty work (Gappa, 1984; Leslie et al., 1982). Even the identification of part-time faculty can be problematic; many institutions keep informal records of part-time faculty at the department level rather than keeping more formal institutional records.

The purpose of this chapter is to describe part-time faculty, including demographic data (ethnicity, gender, age, rank, discipline), academic background, experience, workload and activities, compensation and benefits, and attitudes about the job. On almost all items, comparisons are made across major types of institutions (doctoral, other four-year, and public two-year) and between full- and part-time faculty within each type of institution.

The two groups of NSOPF-88 respondents whose survey responses are presented in this chapter are:

- The full-time regular faculty (that is, those described in the previous chapters in this report), and
- All part-time faculty (both regular and temporary).[1]

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[1] Note that the group of part-time faculty described here is different from that described in a previous NSOPF-88 report, Faculty in Higher Education Institutions, 1988. In that report, only the part-time regular faculty were included. Both regular and temporary (i.e., visiting, acting, or adjunct) part-time faculty were included here to provide a more comprehensive picture of the part-time faculty. Comparisons of the two types of part-timers showed very few appreciable differences between them.

Section 5.2: Dimensions of the Part-Time Higher Education Faculty

Approximately 180,000 part-time regular faculty and 131,000 part-time temporary faculty (i.e., visiting, acting, or adjunct), were employed in higher education institutions in the fall of 1987 (table 5.1). This represented 22 percent and 16 percent, respectively, of faculty[2] employed during that period. Public two-year institutions employed the largest percentage of part-time faculty (58 percent versus 23 to 40 percent for the various types of four-year institutions).

Almost all higher education institutions (98 percent) employed at least some part-time faculty (table 5.2). Seventy percent employed at least some part-time regular faculty and 56 percent employed at least some part-time temporary faculty. Part-time faculty were employed by all public and private four-year and public two-year institutions, and by 92 percent of other (specialized) institutions.

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[2] Includes part-time regular, part-time temporary, full-time regular, and full-time temporary faculty (table 5.1).

Table 5.1--Number and distribution of higher education instructional faculty (in thousands), by faculty employment status and type of institution: Fall 1987

Type of institution	Total Faculty		Part-time				Full-time			
			Regular		Temporary		Regular		Temporary	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All institutions	825	100	180	22	131	16	491	60	23	3
Four-year public	319	100	46	14	29	9	231	72	14	4
Four-year private	218	100	45	21	40	19	126	58	6	3
Two-year public	218	100	75	35	50	23	90	41	3	1
Other	70	100	14	20	11	16	44	63	1	1
Four-year, by type										
Research	193	100	27	14	18	10	137	71	11	6
Doctoral	82	100	12	15	13	16	54	66	2	3
Comprehensive and liberal arts	262	100	52	20	38	14	166	63	6	2

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, institution survey.

Table 5.2--Percentage of higher education institutions with different types of part-time and full-time faculty, by type of institution: Fall 1987

Type of institution	Part-time			Full-time	
	Regular	Temporary	Either regular or temporary	Regular	Temporary
All institutions	70	56	98	99	34
Four-year public	74	69	100	100	74
Four-year private	73	65	100	100	42
Two-year public	79	37	100	98	16
Other	53	60	92	97	25
Four-year, by type					
Research	91	92	100	100	98
Doctoral	57	84	100	100	77
Comprehensive and liberal arts	73	62	100	100	47

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, institution survey.

Section 5.3: Demographic Characteristics of Part-Time Faculty

This section compares all part-time faculty (regular and temporary) and full-time regular faculty across types of institutions on the following demographic characteristics: age, gender, race/ethnicity, marital status, and highest degree.

Age

The mean age of part-time faculty was 44 years, slightly younger than the mean of 47 for full-time regular faculty (table 5.3). Part-time faculty were younger than full-time faculty in each of the three major types of institutions (doctoral, other four-year, and public two-year). A larger percentage of part-time than full-time faculty was under age 44 (58 versus 42 percent), and a smaller percentage was between the ages of 45 and 64 (38 versus 54 percent). The mean age of part-time faculty did not differ appreciably across the types of institutions.

Gender

Part-time faculty were more evenly distributed between men and women than were full-time faculty (56 percent men to 42 percent women for part-timers, versus 73 percent to 27 percent for full-timers) (table 5.4). Nevertheless, there were more men than women even among part-timers at doctoral and public two-year institutions. At non-doctoral, four-year institutions there were approximately equal percentages of men and women part-timers (51 and 49 percent, respectively). At public two-year schools, the gender distribution was essentially the same for part-timers as it was for full-timers (62 percent of the full-time faculty and 61 percent of the part-time faculty were men).

Race/Ethnicity

Nine percent of part-time faculty and 11 percent of full-time faculty were minorities (table 5.5). There were no appreciable differences between part- and full-time faculty in the percentages who were minorities, nor were there differences in the percentages of minority part-time faculty across the various types of institutions.

Marital Status

Three-fourths of all part-time faculty were married (table 5.6). This proportion did not vary appreciably by type of institution or between part- and full-time faculty.

Highest Degree

Part- and full-time faculty were very different in the level of degree they had attained (table 5.7). At both types of four-year institutions, considerably fewer part-time than full-time faculty had a doctorate or first-professional degree (e.g., 55 percent of part-timers and 89 percent of full-timers at doctoral institutions had these kinds of degrees). There was no appreciable difference between full- and part-timers in this regard at public two-year schools (where fewer than 20 percent of either part- or full-time faculty had a doctorate or first-professional degree), but fewer of the two-year-school part-time than full-time faculty had a master's degree (47 versus 65 percent) and a correspondingly larger percentage of part-time faculty had only a bachelor's degree (40 versus 16 percent).

The highest degree attained by part-time faculty also varied considerably across types of institutions, parallel to the differences seen in full-time faculty. That is, the percentage of part-time faculty with a doctorate or first-professional degree was highest at doctoral institutions and lowest at public two-year institutions (table 5.7).

Table 5.3--Percentage distribution of part-time faculty and full-time regular faculty, by age and type of institution: Fall 1987

Type of institution	Under 30		30 to 44		45 to 54		55 to 64		65 or older		Mean age	
	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time
All institutions	5	2	53	40	26	34	12	20	5	4	44	47
Doctoral	4	1	51	42	28	31	11	21	6	4	45	47
Other four-year	5	2	50	39	26	35	12	21	6	4	45	47
Public two-year	4	2	56	36	24	39	12	20	4	3	44	47

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.4--Percentage distribution of part-time faculty and full-time regular faculty, by gender and type of institution: Fall 1987

Type of institution	Male		Female	
	Part-time	Full-time	Part-time	Full-time
All institutions	56	73	42	27
Doctoral	60	78	40	22
Other four-year	51	71	49	29
Public two-year	61	62	39	38

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.5--Percentage of part-time faculty and full-time regular faculty who were of minority racial or ethnic origin, by type of institution: Fall 1987

Type of institution	Minority	
	Part-time	Full-time
All institutions	9	11
Doctoral	9	11
Other four-year	10	12
Public two-year	8	9

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.6--Percentage of part-time faculty and full-time regular faculty who were married, by type of institution: Fall 1987

Type of institution	Married	
	Part-time	Full-time
All institutions	75	77
Doctoral	74	80
Other four-year	73	75
Public two-year	79	76

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.7--Percentage distribution of part-time faculty and full-time regular faculty, by highest degree and type of institution: Fall 1987

	Doctorate		Master's		Bachelor's/Other	
Type of institution	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time
All institutions	29	67	44	28	27	5
Doctoral	55	89	28	10	17	1
Other four-year	29	68	53	30	17	2
Public two-year	13	19	47	65	40	16

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 5.4: Characteristics of Part-Time Faculty Appointments

This section presents information on academic rank, tenure status, length of appointment, time at the institution, and collective bargaining status.

Academic Rank

The vast majority (79 percent) of part-time faculty were hired in the non-professorial ranks of instructor, lecturer, and so on; only 21 percent were in the more traditional ranks of full, associate, or assistant professor (table 5.8). This was essentially the reverse of the situation for full-time faculty, 84 percent of whom were in the professorial ranks.

Some variation of the distribution of part-time faculty across academic ranks existed among types of institutions. In doctoral institutions, 43 percent of the part-time faculty were in the professorial ranks, and 23 percent were assistant professors (about the same percentage of assistant professors as for full-time faculty). In contrast, almost all of the part-time faculty in public two-year institutions (91 percent) were in the non-professorial ranks (in two-year publics, 50 percent of full-time faculty had professorial rank).

Tenure Status

The differences between part- and full-time faculty in tenure status paralleled those found for academic rank. Almost all part-time faculty (95 percent) held positions for which tenure was not possible, 82 percent because the position was not on the tenure track and 13 percent because tenure was not available at the institution (table 5.9). In contrast, the vast majority of full-time faculty were tenured (60 percent) or in tenure-track positions (22 percent). There were no appreciable differences in the tenure status of part-time faculty among the types of institutions.

Length of Appointment

Across all higher education institutions and in non-doctoral, four-year and public two-year institutions, most part-time faculty (64 percent) had a one-term appointment (table 5.10). Most full-time faculty (54 percent), in contrast, had a one-year appointment. In doctoral institutions, appointments for both part-timers and full-timers tended to be longer than at other types of institutions; 39 percent of part-time faculty had one-year appointments (compared with the overall average of 20 percent), and 33 percent of full-time faculty had appointments of two or more years (compared with an overall average of 23 percent). Public two-year institutions were more likely than average to hire part-timers on a per-term basis (80 percent versus 64 percent overall).

Time at the Institution

Contrary to the "gypsy-moth" view, in which part-time faculty are seen as often changing allegiance and source of employment, the average part-time faculty member had been employed at the same institution for 6.5 years (table 5.11). For part-time faculty at doctoral institutions, the average was even higher: 7.6 years. This length of service was less than the 11.6-year average of full-time faculty (table 5.11), but considering that 50 percent of full-time faculty were tenured compared to almost none of the part-time faculty (table 5.9) and the fact that most part-time faculty were hired on a per-term basis, this difference is not surprising.

Collective Bargaining Status

Only about one-half as many part-time as full-time faculty were under a collective bargaining agreement (10 versus 23 percent) (table 5.12). Both part- and full-time faculty in doctoral institutions were less likely than average to be under a collective bargaining agreement. In contrast, full-time faculty in public two-year institutions (but, interestingly, not part-time faculty) were far more likely than their four-year school counterparts to be under a collective bargaining agreement.

Table 5.8--Percentage distribution of part-time faculty and full-time regular faculty, by academic rank and type of institution: Fall 1987

Type of institution	Prof.		Assoc. Prof.		Asst. Prof.		Other	
	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time
All institutions	7	35	5	25	10	24	79	15
Doctoral	11	40	9	28	23	25	57	7
Other four-year	6	35	5	27	10	28	79	11
Public two-year	5	22	2	13	2	15	91	50

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.9--Percentage distribution of part-time faculty and full-time regular faculty, by tenure status and type of institution: Fall 1987

Type of institution	Tenured		Tenure-track		No tenure system for faculty status or not on tenure track		No tenure system at institution	
	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time
All institutions	3	60	2	22	82	10	13	9
Doctoral	5	62	3	25	86	11	6	2
Other four-year	3	60	1	25	90	11	6	4
Public two-year	2	60	2	9	82	5	14	25

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.10--Percentage distribution of part-time faculty and full-time regular faculty, by length of appointment and type of institution: Fall 1987

	One term		One year		2 or more years		Unspec. duration		No contract	
Type of institution	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time
All institutions	64	12	20	54	2	23	12	10	2	<1
Doctoral	38	9	39	44	5	33	16	13	2	0
Other four-year	64	13	25	61	1	18	8	8	2	0
Public two-year	80	15	6	67	1	12	12	6	2	<1

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.11--Mean number of years at this institution for part-time faculty and full-time regular faculty, by type of institution: Fall 1987

Type of institution	Part-time	Full-time
All institutions	6.5	11.6
Doctoral	7.6	11.4
Other four-year	6.2	11.6
Public two-year	6.1	12.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.12--Percentage of part-time faculty and full-time regular faculty under a collective bargaining agreement, by type of institution: Fall 1987

Type of institution	Part-time	Full-time
All institutions	10	23
Doctoral	3	9
Other four-year	10	24
Public two-year	13	54

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 5.5: Characteristics of the Work

This section explores four aspects of part-time faculty work: the overall workload, whether part-time faculty had additional employment, allocation of time across major types of activities, and numbers of selected kinds of publications.

Workload

The average part-time faculty had a full-time workload, with an average of 14 hours per week at the academic institution surveyed and 28 hours per week on other paid activities, plus 2 hours per week providing unpaid professional services, for a total work week of 44 hours (table 5.13). This was still less, however, than the average 53-hour work week put in by full-time faculty. Both full- and part-time faculty at doctoral institutions worked more hours than average in total and at the institution (part-timers here averaged 48 hours in total and 17 hours at the institution). Full- and part-time faculty did not differ appreciably in the time they spent on unpaid professional activities.

Other Full-time Employment

About one-half of part-time faculty (52 percent) had other full-time employment in Fall 1987 (table 5.14). There were no appreciable differences in this statistic across the three major types of institutions.

Time Allocation

Interestingly, part- and full-time faculty spent equivalent percentages of their total time on teaching-related activities (57 and 56 percent, respectively) (table 5.15). However, differences between the two groups were found in the proportion of time spent on other kinds of activities; for the most part, the percentage of time that full-time faculty spent on research and administration, part-time faculty spent in other employment. Part-timers also spent a higher percentage of time than full-timers on professional development activities.

Among both part- and full-time faculty, those at doctoral institutions spent less than average percentages of time teaching (44 and 43 percent, respectively), and greater than average percentages of time on research activities (9 and 27 percent, compared with overall averages of 4 and 16 percent, respectively). Part- and full-time faculty at public two-year institutions spent higher than average percentages of time teaching (65 and 71 percent, respectively).

Publications

In terms of NSOPF's measure of productivity in publications (the number of refereed articles, books, and chapters published during the 2 years preceding the survey (see section 2.3), part-timers were considerably less likely than full-timers to have produced any of these kinds of publications (table 5.16). Across all institutions, only 21 percent of part-time faculty had published in these categories in the past two years, compared with 53 percent of full-time faculty. Correspondingly, part-time faculty also had lower mean numbers of publications than full-time faculty--0.8 versus 2.8.

Parallel to the differences among full-time faculty, part-timers in doctoral institutions were considerably more likely than others to have published. In doctoral institutions, 37 percent of the part-timers had published in the last two years, and the mean number of publications was 1.6.

Table 5.13--Mean number of hours worked by part-time faculty and full-time regular faculty, by type of work and type of institution: Fall 1987

Type of institution	Total		At this institution		Other paid activities		Unpaid professional activities	
	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time
All institutions	44	53	14	46	28	4	2	3
Doctoral	48	56	17	50	28	3	3	2
Other four-year	42	52	14	46	26	4	3	3
Public two-year	41	47	12	40	27	4	2	3

NOTE: Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.14--Percentage of part-time faculty who had other full-time employment, by type of institution: Fall 1987

Type of institution	
All institutions	52
Doctoral	52
Other four-year	48
Public two-year	52

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.15--Percentage of time spent on various activities by part-time faculty and full-time regular faculty, by type of institution: Fall 1987

Type of institution	Teaching		Research		Admin.		Service		Other work		Prof'l devel.	
	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time
All institutions	57	56	4	16	4	13	5	4	23	7	7	5
Doctoral	44	43	9	27	6	14	4	3	30	9	8	4
Other four-year	58	63	4	10	4	13	4	5	23	5	7	4
Public two-year	65	71	2	3	3	10	5	5	18	5	7	5

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.16--Mean number of refereed articles, books, and chapters published in the past two years by part-time faculty and full-time regular faculty and percentage of faculty who had any of these publications, by type of institution: Fall 1987

Type of institution	Mean number		Percentage with any	
	Part-time	Full-time	Part-time	Full-time
All institutions	0.8	2.8	21	53
Doctoral	1.6	4.8	37	77
Other four-year	0.7	1.5	22	44
Public two-year	0.4	0.5	10	16

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 5.6: Compensation and Benefits

This section examines various types of income and selected employee benefits.

Income

Part-time faculty earned an average basic salary of $6,302 and an average total income of $34,275 (table 5.17). Thus, on average, the basic institutional salary for part-time faculty represented only 18 percent of their total income. Another $461 was earned on average as other income from the institution, and an average of $27,512 (80 percent of the total income) was earned from consulting and other employment. Both basic salary and total income were substantially higher for those at doctoral institutions than for those at other kinds of institutions averaging $9,914 and $48,425, respectively. At all types of institutions, part-timers earned lower total incomes, and, of course, lower basic salaries, than their full-time counterparts.

Benefits

Six different types of benefits were selected for discussion in this section: medical insurance, life insurance, retirement plans to which the employer made contributions, tuition remission plans for the employee, institutional funds for professional association memberships, and institutional funds for professional travel. Because there often were differences in availability of benefits based on hours worked per week, part-time faculty have been divided into those who worked fewer than 20 hours per week (i.e., less than half-time) and those who worked 20 or more hours per week.

About twice as many full-time faculty as part-time faculty who worked 20 or more hours per week reported that most of the benefits listed were available to them; and in most cases, the part-timers who worked 20 or more hours per week were in turn more likely to have the benefit than were those who worked fewer than 20 hours (table 5.18). For example, 98 percent of full-time faculty reported that medical insurance was available to them, compared with 42 percent of part-timers who worked 20 or more hours per week and only 11 percent of those who worked fewer than 20 hours per week.

There were no differences among the three types of institutions in the percentages of faculty who worked fewer than 20 hours per week that had various benefits available to them (between 5 and 20 percent, overall, depending on the benefit). There were a few institutional differences, however, in the benefits available to those who worked 20 or more hours a week. For example, part-timers who worked 20 or more hours per week in public two-year institutions were considerably less likely than average to have medical insurance available to them (16 percent versus 42 percent, overall). Also, those in doctoral institutions were more likely than others to have retirement plans available in which the institution made contributions. Finally, those in public two-year institutions were less likely than those in four-year institutions to have life insurance available to them (table 5.18).

Table 5.17--Mean income for part-time faculty and full-time regular faculty, by source of income and type of institution: Fall 1987

Type of institution	Total		Basic salary		Other income from inst.		Consulting and other income	
	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time
All institutions	$34,275	$48,701	$6,302	$39,439	$461	$3,588	$27,512	$5,674
Doctoral	48,425	60,370	9,914	47,568	586	4,961	37,925	7,841
Other four-year	31,409	40,419	5,949	33,939	507	2,292	24,953	4,187
Public two-year	28,280	38,539	4,448	32,470	368	2,943	23,464	3,126

NOTE: Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.18--Percentage of part-time faculty and full-time regular faculty to whom selected benefits were available, by type of institution: Fall 1987

	Medical insurance			Life insurance		
	Part-time ≤ 20 hours	Part-time 20+ hours	Full-time	Part-time ≤ 20 hours	Part-time 20+ hours	Full-time
All institutions	11	42	98	5	31	86
Doctoral	20	62	98	11	50	88
Other four-year	13	46	98	7	32	86
Public two-year	8	16	98	3	12	84

	Retirement plan with institution contribution			Tuition remission for employee		
	Part-time ≤ 20 hours	Part-time 20+ hours	Full-time	Part-time ≤ 20 hours	Part-time 20+ hours	Full-time
All institutions	17	41	94	20	27	60
Doctoral	22	61	96	31	28	54
Other four-year	11	39	95	20	34	68
Public two-year	20	27	91	13	22	56

	Institution funds for professional association membership			Institution funds for professional travel		
	Part-time ≤ 20 hours	Part-time 20+ hours	Full-time	Part-time ≤ 20 hours	Part-time 20+ hours	Full-time
All institutions	15	23	34	14	41	90
Doctoral	14	23	29	17	44	89
Other four-year	15	20	35	16	40	93
Public two-year	16	27	40	10	36	90

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 5.7: Attitudes about the Job

One popular view holds that part-time faculty are primarily frustrated full-time faculty, aspiring to full-time academic careers and being dissatisfied when full-time opportunities are not available. This perspective was not supported by NSOPF findings. Only 16 percent of all part-time faculty aspired to a full-time faculty position (table 5.19).[3] Although this expectation varied by type institution, it did so in an unexpected pattern. Despite their higher levels of prestige, doctoral universities were not any more likely than public two-year colleges to have part-time faculty who desired full-time status. Other four-year institutions, however, did have somewhat higher than average percentages of aspiring full-time faculty members.

Further, part- and full-time faculty were equally likely to be satisfied with their jobs overall (87 and 85 percent, respectively, were somewhat or very satisfied) (table 5.20). Part-timers were more likely to be satisfied with their workload (86 versus 73 percent) and their mix of responsibilities (85 versus 72 percent), and they were equally likely to be satisfied with their salary (56 versus 58 percent). However, consistent with their lower levels of benefits and their low representation in the tenured ranks, they were much less likely than full-time faculty to be satisfied with their benefits (36 versus 76 percent) or their job security (54 versus 84 percent). These patterns were evident at doctoral and other four-year institutions and at public two-year institutions. With one exception, there were no appreciable differences in satisfaction ratings among part-timers at different types of institutions. The exception was that part-timers at doctoral institutions were more likely than those in other types of schools to be satisfied with their benefits (49 percent versus 36 percent overall), perhaps reflecting the better benefits available to more than half-time part-time faculty at those types of schools.

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[3] Aspiration to a full-time faculty position was inferred from the following combination of responses: Having a full-time position and tenure-track/tenured position were both rated as very important in one's decision to accept another position, and the sector of employment in the new job was rated as very likely to be one or more of the various types of postsecondary institutions.

Table 5.19--Percentage of part-time faculty who aspired to full-time academic employment, by type of institution: Fall 1987

Type of institution	
All institutions	16
Doctoral	13
Other four-year	20
Public two-year	16

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table 5.20--Percentage of part-time faculty and full-time regular faculty who were somewhat or very satisfied with various dimensions of their job, by type of institution: Fall 1987

Type of institution	Salary		Work load		Mix of respons.		Job security		Benefits		Job overall	
	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time
All institutions	56	58	86	73	85	72	54	84	36	76	87	85
Doctoral	51	58	90	76	84	73	59	84	49	77	88	85
Other four-year	52	54	86	65	82	65	50	84	37	73	86	83
Public two-year	63	66	86	79	88	80	57	87	30	81	90	90

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Section 5.8: Summary

Approximately 311,000 part-time faculty were employed in higher education institutions in the fall of 1987, representing 38 percent of faculty employed during that period. Public two-year institutions employed the largest percentage of part-time faculty (58 percent versus 23 to 40 percent for four-year institutions).

The demographic profile of part-time faculty is as follows: The mean age was 44 years, slightly younger than the mean of 47 for full-time regular faculty. Fifty-six percent were men and 42 percent were women, compared with 73 percent men and 27 percent women for full-timers. Nine percent were minorities, compared with 11 percent of full-time faculty. Approximately three-fourths of both part- and full-time faculty were married.

At each type of institution, part-timers were considerably less likely than their full-time counterparts to have advanced degrees, although (as with full-timers) the percentage with a doctorate or first-professional degree was relatively high at doctoral institutions and relatively low at public two-year institutions. The vast majority of part-time regular faculty were hired in non-tenure-track positions and in the non-professorial ranks of instructor, lecturer, and so on. This was essentially the reverse of the situation for full-time faculty.

Contrary to the "gypsy-moth" view of part-time faculty, the average part-time faculty member had been employed at the same institution for 6.5 years. Although this length of service was less than the 11.6-year average of full-time faculty, considering that most of full-time faculty were tenured (compared to almost none of the part-time faculty), this difference is not surprising.

The average part-time faculty member had a full-time workload of 44 hours per week, an average of 14 hours of which were spent at the academic institution surveyed. This was less, however, than the 53-hour work week averaged by full-time faculty. Both full- and part-time faculty at doctoral institutions worked more hours than the overall average in total and at the institution. Interestingly, part- and full-time faculty spent equivalent percentages of their time on teaching-related activities (57 and 56 percent, respectively). Among both part- and full-time faculty, those at doctoral institutions spent less than average percentages of time on teaching activities, and greater than average percentages of time on research activities.

Part-time regular faculty earned an average basic salary of $6,302 and an average total income of $34,275. Thus, on average, the basic institutional salary for part-time faculty represented only 20 percent of their total income. Both basic salary and total income were higher for those at doctoral institutions as for those at other kinds of institutions. At all types of institutions except doctoral institutions, part-timers earned lower total incomes than their full-time counterparts.

About twice as many full-time faculty as part-time faculty who worked 20 or more hours per week reported the availability of most of the benefits listed, and in most cases, the part-timers who worked 20 or more hours were more likely to have the benefit available than were those who worked fewer than 20 hours at the institution. Part-time faculty benefits rarely differed among the various types of institutions.

The perspective that part-time faculty aspire to full-time academic careers was not supported by NSOPF findings. Only 16 percent of all part-time faculty aspired to obtain a full-time faculty position. Further, part-time faculty were more likely than full-time faculty to be satisfied with their job overall, their workload, and their mix of responsibilities, and equally likely to be satisfied with their salary at the institution. However, part-timers were considerably less satisfied than full-timers with their benefits and job security.

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Appendix A: Technical Notes

Appendix A: Technical Notes

The 1988 National Survey of Postsecondary Faculty (NSOPF-88) was conducted under contract to the National Center for Education Statistics (NCES). It was conducted in accordance with the Congressional mandate to NCES in P.L. 93-380. The General Provisions Act, 20 USC 1221e-1, Section 406(b), requires NCES to "collect, collate, and from time to time report full and complete statistics on the condition of education in the United States; conduct and publish reports on specialized analyses of the meaning and significance of such statistics;..."

Overview

NSOPF-88 was conducted from December 1987 through October 1988. A total of 480 degree-granting institutions (two-year, four-year, or advanced degree) were randomly selected, stratified by a modified Carnegie classification and size--where size was defined as the number of faculty. Within each stratum, institutions were randomly selected. Of those selected, 449 (93.5 percent) agreed to participate and provided lists of their fall, 1987, instructional faculty and department chairpersons. From each four-year institution, faculty and department chairpersons were stratified by program area and selected; from each two-year school, simple random samples of faculty and department chairpersons were selected; and from the specialized schools, only faculty were sampled. At all institutions, faculty were stratified on the basis of employment status: full-time and part-time. Questionnaire responses were obtained from 424 institutions (88 percent), 2,423 department chairpersons (80 percent) and 8,383 faculty members (76 percent).

Sampling Strategy

Institutional Sample--The design of NSOPF-88 called for the selection of a sample of 480 institutions from the universe of accredited, nonproprietary U.S. postsecondary institutions that grant a two-year (A.A.) or higher degree and whose accreditation at the higher education level is recognized by the U.S. Department of Education. The sampling frame was the 1987 Integrated Postsecondary Education Data System (IPEDS) file, which contained a total of 3,159 institutions that met the study criteria. The sample was stratified into 12 primary strata based on level of degree offered, emphasis placed on research, and control (public vs. private). The 12 strata are as follows:

1. Public research universities--Publicly controlled institutions among the 100 leading universities in Federal research funds. Each of these universities awards substantial numbers of doctorates across many fields.

2. Private research universities--Privately controlled institutions among the 100 leading universities in federal research funds. Each of these universities awards substantial numbers of doctorates across many fields.

3. Other public doctoral-granting universities.

4. Other private doctoral-granting universities.

5. Public comprehensive colleges and universities: Offer liberal arts and professional programs; a master's degree is the highest degree offered.

6. Private comprehensive colleges and universities: Offer liberal arts and professional programs; a master's degree is the highest degree offered.

7. Liberal arts colleges: Smaller and generally more selective than comprehensive colleges and universities. Primarily offer bachelor's degrees, although some offer master's degrees.

8. Two-year public colleges.

9. Two-year private colleges.

10. Independent medical schools (that is, those not considered a part of a four-year college or university)

11. Religious colleges

12. Other: Includes a wide range of professional and other specialized degree-granting colleges and universities.

To select the institutional sample, institutions within each of the 12 primary strata were ordered on the basis of approximate number of faculty. Each primary stratum was then divided into three or four substrata based on the faculty counts. (Usually, the first substratum contained the largest institutions whose combined faculty totaled 25% of all faculty in the primary stratum, the second substratum contained the next largest institutions whose combined faculty totaled 25% of all faculty, and so on.) A designated number of institutions were randomly sampled from each size substratum. In general, fewer institutions were sampled from the substrata with the largest institutions than from those with smaller institutions. However, because there are fewer large institutions than small institutions, the sampling rates were much higher for large institutions than for small institutions.

Faculty Sampling--Faculty were selected for the survey using a multi-stage process. First, faculty lists were obtained from participating institutions. For four-year institutions, the lists were used to determine the numbers of full- and part-time faculty in each of the following program areas:

- Education
- English and literature
- Foreign languages
- History
- Philosophy
- All other program areas

Sampling fractions varied as a function of the program area, full-time vs. part-time job status (full-time faculty were sampled at a higher rate than part-time faculty), and the number of faculty in the institution (larger sampling fractions were used in smaller schools).

In addition, a supplemental sample of faculty was drawn from three program areas in the "all other" group--agriculture/home economics, arts, and natural sciences. This sample was drawn by selecting individuals who belonged to each of these areas from the top and bottom of the faculty lists of a random sample of institutions. After this supplemental sample was drawn, the faculty originally sampled from the "all other" group were classified into the following program areas:

- Agriculture/home economics
- Arts
- Business
- Engineering
- Health
- Humanities (other than the fields listed separately)
- Natural sciences (including mathematics, statistics, and computer science)
- Social sciences
- All others (including communication, continuing education, library science, law, theology, and interdisciplinary studies)

This classification allows for an unbiased estimate of the number of faculty in each of these areas.

For faculty in two-year, religious, medical, and other specialized institutions, the sampling plan for faculty was simpler than that described above. For these schools, faculty were stratified only by full-time or part-time status, and different sampling fractions were used for these two strata. (Again, full-time faculty were sampled at a higher rate than part-time faculty.) Faculty from these schools can be post-stratified into fields of study (which can in turn be collapsed into program areas), using the responses that they provide on the faculty questionnaire.

Table A.1 shows the estimated number of eligible sample members and the number of respondents for the two-year and specialized institutions, in which

Table A.1--Faculty respondents and eligible sample members in two-year colleges and specialized institutions

	Public 2-Year	Private 2-Year	Religious	Medical	Other Specialized	Total
Respondents	1262	106	107	122	153	1750
Eligible sample members	1630	124	135	164	204	2257
Response rate	.77	.85	.79	.74	.75	.78

the sample was not stratified by program area. The number of respondents and estimated number of eligible sample members in four-year schools, by type and control of institution and department program area, are shown in Table A.2 on the following page.

Eligible sample members were faculty who had at least some instructional duties that were related to for-credit courses given at the sampled institution during the 1987 fall term. The number of eligible sample members was estimated by, first, calculating the percentage of eligible sample members from among those individuals whose eligibility status we were able to ascertain (either from returned questionnaires or from information received from the individual's institution). This percentage was then applied to the remaining number of sample members from whom we did not have a response (excluding those who refused and those we could not locate) to develop an overall estimate of eligibility. This estimate probably is conservative, because it assumes that all those who refused or could not be located were eligible.

Overall, 1,311 of the original 12,569 sample members were found to be ineligible. Based on the proportion 1,311/12,569 = .104, we estimated that 187 of the 1,796 individuals from whom we had no response were also ineligible. Thus, we estimate that 11.9% of the original sample members were ineligible: (1,311 + 187)/12,569 = .119. Across all institutions, there was an estimated total of 11,071 eligible sample members and 8,382 respondents, for an overall response rate of 76%.

Table A.2--Faculty respondents and eligible sample members in four-year schools, by type and control of institution and department program area

	Public resrch	Private resrch	Public doctrl	Private doctrl	Public compreh	Private compreh	Liberal arts	Total	Response Rate
Agriculture/ home economics	104/129*	9/13	80/82	0/4	64/77	10/13	7/7	274/325	.84
Arts	86/117	43/58	71/88	18/30	156/198	81/113	75/94	530/698	.76
Business	54/74	26/33	32/40	18/26	90/120	62/73	27/37	309/403	.77
Education	119/155	23/37	96/112	17/29	224/290	74/96	60/74	613/803	.76
Engineering	76/95	15/24	33/36	12/17	47/58	37/44	9/14	229/288	.80
English	129/182	32/43	70/97	20/26	179/236	99/117	77/93	606/794	.76
History	126/163	49/62	82/106	24/35	162/207	83/98	87/99	613/770	.80
Foreign languages	149/211	63/82	80/97	20/31	121/167	69/92	87/122	589/802	.73
Philosophy	108/160	44/65	58/83	34/56	110/165	122/152	69/93	545/774	.70
Other humanities	6/10	1/2	1/1	3/6	8/12	8/9	19/26	46/66	.70
Health sciences	193/269	73/115	39/50	32/49	74/109	34/48	16/21	461/661	.70
Natural sciences	119/153	58/77	68/74	20/29	106/124	60/77	53/63	484/597	.81
Social sciences	101/136	45/60	46/57	25/33	123/184	49/59	45/63	434/592	.73
Other areas	158/226	78/118	93/123	50/73	259/347	132/168	124/170	894/1225	.77
Total resp's	1528	559	849	293	1723	920	755	6627	
Total sample	2080	789	1056	444	2294	1159	976	8798	
Response rate	.73	.71	.80	.67	.75	.79	.77	.75	

---

* I.e., There were 104 respondents and an estimated 129 eligible sample members in agriculture and home economics departments in public research universities.

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Weight Calculations

In the two stage sampling process described above, faculty were sampled from lists of those faculty employed at the institution on October 15, 1987 and provided by participating institutions. The probability of selecting a particular faculty member was a function of (1) the probability of selecting a particular institution from the NSOPF-defined IPEDS universe; (2) the number of faculty on the faculty list provided by a participating institution; and (3) the sampling rate for faculty within a particular employment status (full- or part-time) and program area. Weights for sampled faculty were calculated as the inverse of the probability of selection. Weights on which most of the data in this report are based were adjusted for two levels of nonresponse--institutional nonresponse and individual faculty nonresponse. Sample weights sum to the total number of faculty in the NSOPF-defined IPEDS universe of institutions as projected from the lists of total faculty provided by participating institutions.

Estimates of the number of faculty in NSOPF-defined institutions projected from the lists of faculty provided by participating institutions differ somewhat from the number of faculty estimated from responses to the NSOPF institutional respondent survey. In the institutional respondent survey, an institutional representative (usually the institution's academic officer or institutional researcher) was asked to provide counts of faculty at the institution in various categories. For some institutions, the number of faculty on the lists provided by the institution differed considerably from the number of faculty reported by the institutional respondent. Although a major effort was made to resolve identified inconsistencies, some discrepancies could not be resolved. This problem and possible solutions will be investigated in the next NSOPF cycle.

Data Collection

The first stage of the data collection process involved obtaining each sampled institution's agreement to participate and, subsequently, obtaining lists of faculty and department chairpersons in these institutions. A total of 449 (94 percent) of the 480 institutions agreed to participate and sent faculty and, as appropriate, department chairpersons lists.

Faculty questionnaire data were collected between the end of April and the end of October, 1988. Data collection procedures consisted of an initial mailing, three follow-up mailings, telephone reminder calls, and telephone calls to complete the questionnaire.

Data Processing

The first step in processing the data was a manual edit and coding of open-ended responses. In the manual edit, questionnaires were scanned for readability and completeness of all items identified by NCES as critical. Questionnaires that passed the manual edit were batched for data entry.

Questionnaires that failed were reviewed by the edit/coding supervisor and/or submitted for telephone follow-up, as appropriate.

Following data entry, a computer-based editing system was used to check data for range errors, logical inconsistencies, and erroneous skip patterns. For erroneous skip patterns, values were logically assigned on the basis of the presence or absence of responses within the skip pattern, as feasible given the responses provided. For errors that could not be corrected in this fashion, the hard copy questionnaire was inspected, and, if necessary, the respondent was called back to try to resolve the problem.

As a final step, stochastic imputations were performed to fill in most questionnaire items that had missing data. This was done using the response to the omitted item given by a randomly selected other respondent who matched the target respondent on employment status (full- vs. part-time), tenure status, academic rank, gender, minority/nonminority status, program area, and institutional stratum. If no respondent was found who matched on all these criteria, categories of the matching criteria were collapsed (beginning with institutional stratum and working back up the list). As a last resort, institutional stratum was dropped altogther as a matching criterion. This left 60 cases with missing values on one or more items. In addition, 8 cases had more than one of the matching criteria missing, so no imputation was done for missing values in these cases. Finally, imputations could not be made for a few cases in which data necessary to calculate an imputed value were missing.

Accuracy of Estimates

Error in the estimates provided in this report are derived from two sources: sampling errors and nonsampling errors. Nonsampling errors are extremely difficult to estimate. They may be caused by a variety of factors, including inability to provide accurate information (for example, because of incomplete or out of date records), refusal to provide information, differences in interpreting the questions, respondent errors, and errors made in recording the data. No estimates of nonsampling error for these data have been made.

Sampling errors occur because the estimates are based on a sample of individuals in the population rather than on the entire population. Sampling errors can be estimated using statistical procedures in which a statistic called a standard error is calculated. Appendix B contains the standard error for some estimates presented in this report. Standard errors for all other estimates presented in the report are available on request. The standard errors may be used to calculate confidence intervals around each estimate and to compare two or more estimates to determine if they are statistically different from one another.

To calculate the 95 percent confidence interval, the standard error is multiplied by 1.96 and the product is added to and subtracted from the estimate to produce a range. If all possible samples were surveyed under similar conditions, this interval below and above the estimate would include the true population parameter being estimated in about 95 percent of the samples.

Comparisons noted in this report are significant at the .05 level. The significance of the difference between the overall mean (i.e., the mean of the entire population) and a subgroup mean (e.g., between the mean salary of all faculty in all institutions and the mean salary of all faculty in public doctoral institutions) was tested using a t-test in which the standard error of the difference was adjusted for the covariance between the subgroup and the total group. The exact formula for the appropriate t-test is

$$t = \frac{\bar{X}_S - \bar{X}_T}{[se_S^2 + se_T^2 - 2(p)\, se_S^2]^{1/2}}$$

where $\bar{X}_S$ and se_S are the mean and standard error for the subgroup; $\bar{X}_T$ and se_T are the mean and standard error for the total group; and p is the proportion of the total group contained in the subgroup.

When multiple pairwise comparisons were made, the acceptable minimum significance level was decreased by means of the Bonferroni adjustment. This adjustment takes into account the increased likelihood, when making multiple comparisons, of finding significant pairwise differences simply by chance. With this adjustment, the significance level being used for each comparison (.05) is divided by the total number of comparisons being made.

Appendix B: Standard Error Tables

Table B.1.1--Age distribution of full-time regular faculty: Fall 1987

Age group	Percentage	Standard error
Total	100	
Under 30	1	0.23
30-44	40	0.79
45-54	34	0.76
55-59	12	0.51
60-64	9	0.76
65 or older	4	0.49

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table B.2.1--Mean number of hours worked by full-time regular faculty, by type and control of institution: Fall 1987

Type and control of institution	Total hours worked	Activities at this institution	Other paid activities	Unpaid service
All institutions	53	46	4	3
Standard error	0.35	0.40	0.12	0.07
Public research	57	52	3	2
Standard error	0.61	0.66	0.28	0.13
Private research	56	50	4	2
Standard error	1.25	1.40	0.55	0.22
Public doctoral	55	49	3	2
Standard error	0.70	1.04	0.37	0.11
Private doctoral	53	46	5	2
Standard error	1.43	2.15	0.89	0.21
Public comprehensive	52	46	3	3
Standard error	0.62	0.64	0.28	0.23
Private comprehensive	51	44	4	3
Standard error	0.66	0.65	0.53	0.24
Liberal arts	52	47	3	2
Standard error	1.09	1.11	0.43	0.25
Public two-year	47	40	4	3
Standard error	0.69	0.51	0.37	0.16
Other	50	43	5	2
Standard error	1.56	1.50	0.61	0.28

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table B.3.1--Mean income for full-time regular faculty, by source of income: Fall 1987

Source	Mean	Standard error
Total	$48,701	
Basic salary	39,439	551.81
Other teaching at this institution not included in basic salary (e.g., for summer session)	1,727	111.04
Outside consulting, consulting business, or freelance work	1,655	115.33
Legal or medical services or psychological counseling	1,293	293.96
Supplements from this institution not included in basic salary (for administration, research, coaching sports, etc.)	1,239	136.78
Self-owned business (other than consulting)	821	108.59
Royalties or commissions	494	135.83
Other income from this institution	482	83.66
Any other employment [other than at an academic institution]	430	61.85
Employment at another academic institution	324	38.61
Speaking fees, honoraria	226	14.29
Retirement income	167	54.57
Nonmonetary compensation from this institution (e.g., food, housing, car)	140	43.91
Professional performances or exhibitions	111	22.30
Other sources	153	40.83

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table B.4.1--Percentage distribution of full-time regular faculty, by gender and type and control of institution: Fall 1987

Type and control of institution	Male	Female	Standard error
All institutions	73	27	0.86
Public research	79	21	1.65
Private research	81	19	2.75
Public doctoral	76	24	2.34
Private doctoral	73	27	8.35
Public comprehensive	71	29	1.70
Private comprehensive	72	28	3.21
Liberal arts	71	29	4.04
Public two-year	62	38	2.16
Other	79	21	3.96

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, faculty survey.

Table B.5.1--Number (in thousands) and percentage distribution of higher education instructional faculty, by faculty type and type of institution: Fall 1987

	Total		Regular				Temporary			
	Faculty		Part-time		Full-time		Part-time		Full-time	
Type of institution	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All institutions	825	100	180	22	491	60	131	16	23	3
Standard error	39		12	1.08	25	1.23	12	1.24	3	0.39
Four-year public	319	100	46	14	231	72	29	9	14	4
Standard error	14		4	1.14	11	1.22	3	0.90	2	0.64
Four-year private	218	100	45	21	126	58	40	19	6	3
Standard error	21		8	2.91	12	2.38	6	2.29	1	0.66
Two-year public	218	100	75	35	90	41	50	23	3	1
Standard error	13		9	3.27	5	2.32	8	2.97	1	0.54
Other	70	100	14	20	44	63	11	16	1	1
Standard error	9		2	3.22	6	3.87	3	3.96	<1	0.38
Four-year,by type										
Research	193	100	27	14	137	71	18	10	11	6
Standard error	14		4	2.23	8	2.67	5	2.42	2	0.97
Doctoral	82	100	12	15	54	66	13	16	2	3
Standard error	10		5	5.47	6	3.92	3	4.45	<1	0.82
Comprehensive and liberal arts	262	100	52	20	166	63	38	14	6	2
Standard error	16		5	1.45	10	1.48	4	1.46	2	0.67

SOURCE: U.S. Department of Education, National Center for Education Statistics, NSOPF-88, institution survey.

Appendix C: The Faculty Questionnaire

UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF THE ASSISTANT SECRETARY
FOR EDUCATIONAL RESEARCH AND IMPROVEMENT

CENTER FOR EDUCATION STATISTICS
April 1988

Dear Faculty Member:

There is very little current and comprehensive information about higher education faculty in this country. For this reason, the Center for Education Statistics of the U.S. Department of Education is conducting a national survey of faculty in American colleges and universities. This study, which is cosponsored by the National Endowment for the Humanities, is designed to provide reliable and current data for higher-education researchers, as well as planners and policymakers at all levels (institutional and governmental). The Center has contracted with SRI International (formerly Stanford Research Institute) and the Center for the Study of Higher Education at Penn State University to conduct the study.

This National Survey of Postsecondary Faculty (NSOPF) is the most comprehensive study of faculty in postsecondary educational institutions ever undertaken. It will provide national profiles of faculty members regarding their backgrounds, responsibilities, career and retirement plans, compensation, benefits, and attitudes about their jobs and various academic issues. Additionally, information on institutional and departmental characteristics, policies, and practices that affect faculty will be collected from institutional spokespersons and chairpersons of selected departments (or comparable academic units).

You and several of your colleagues at your institution are part of a randomly drawn national sample of instructional faculty who are being asked to contribute to this study. While your participation is voluntary, it is particularly important because this survey will establish a baseline for any future profiles of faculty.

Individual responses and all information which would permit identification of individuals will be kept strictly confidential, in accordance with the provisions of the Family Educational Rights and Privacy Acts of 1976. Responses will be used only in statistical summaries and will not be disclosed to any group or individual.

Please complete this questionnaire as soon as possible and return it directly to SRI in the enclosed business-reply envelope. When the study is completed, the Center will provide your institution with a summary report of the findings. Study reports and data tapes also will be available upon request to researchers who wish to explore the study issues further. If you have any questions or comments concerning this study, please telephone Dr. Susan Russell, Project Director, of SRI International (415-859-4164).

Thank you in advance for your cooperation.

Sincerely,

Emerson J. Elliott, Director

OMB Clearance # 1850-0608
Expiration Date: 7/89

NATIONAL SURVEY OF POSTSECONDARY FACULTY

Faculty Questionnaire

PLEASE NOTE:

Many of our questions ask about your activities during the 1987 Fall Term. By this, we mean whatever academic term was in progress on October 15, 1987.

All questions that ask about your current position or institution refer to your position during the 1987 Fall Term at the institution to which this questionnaire was addressed.

This questionnaire was designed to be completed by both full- and part-time instructional faculty in 2- and 4-year postsecondary institutions of all kinds. Because this is such a diverse group, some of the questions may not be worded quite appropriately for your situation. We would appreciate your tolerance of these difficulties.

1. During the 1987 Fall Term, did you have any instructional duties at this institution (e.g., teaching one or more courses, advising or supervising students' academic activities)?

   (PLEASE CIRCLE ONE NUMBER)

   Yes 1

   No 2

   IF NO, PLEASE STOP HERE AND RETURN THIS
   PACKET TO SRI IN THE ENCLOSED FRANKED ENVELOPE.

2. During the 1987 Fall Term, were at least some of your instructional duties related to for-credit courses, or were all of your instructional duties related to noncredit courses?

   (PLEASE CIRCLE ONE NUMBER)

   At least some of my instructional duties were related to for-credit courses 1

   All of my instructional duties were related to noncredit courses 2

   IF ALL NONCREDIT, PLEASE STOP HERE AND RETURN
   THIS PACKET TO SRI IN THE ENCLOSED FRANKED ENVELOPE.

3. During the 1987 Fall Term, were you on sabbatical from another institution?

   Yes 1

   No 2

A. NATURE OF EMPLOYMENT

4. During the 1987 Fall Term, did this institution consider you to be employed here full-time or part-time?

Full-time 1

Part-time 2

5. During the 1987 Fall Term, were you employed only at this institution, or did you also have other employment? *Please include outside consulting or other self-owned business.*

Employed only at this institution . . . . . 1 --> SKIP TO Q.7

Also had other employment or consulting . . 2

6. Other than this institution, in which of the following ways were you employed during the 1987 Fall Term?
(PLEASE CIRCLE "FULL-TIME" OR "PART-TIME" FOR ALL SECTORS THAT APPLY)

	TYPE OF EMPLOYMENT	
Employment sector	Full-time (35+ hours/week)	Part-time (<35 hours/week)
Consulting, freelance work, or self-owned business in area directly related to my field at this institution	1	2
Consulting, freelance work, or self-owned business in area largely unrelated to my field at this institution	1	2
On staff of another postsecondary educational institution	1	2
On staff of an elementary or secondary school	1	2
On staff of a hospital or other health care/ clinical setting	1	2
On staff of a foundation or other nonprofit organization	1	2
On staff of a for-profit business or industry in the private sector	1	2
On staff of the federal government (including military)	1	2
On staff of a state or local government	1	2
Other (PLEASE SPECIFY BELOW:) ____________________	1	2

7. Were you chairperson of a department or division at this institution during the 1987 Fall Term?

Yes 1

No 2

8. During the 1987 Fall Term, were you on sabbatical from this institution?

Yes 1

No 2

9. What was your tenure status at this institution during the 1987 Fall Term?

Not applicable: no tenure system at this institution 1

Not applicable: no tenure system for my faculty status 2

Not on tenure track 3

On tenure track but not tenured . . 4

} SKIP TO Q.11

Tenured 5

10. In what year did you achieve tenure at this institution? *(PLEASE GIVE YOUR BEST ESTIMATE IF NOT SURE)*

19______

PLEASE SKIP TO QUESTION 12

11. During the 1987 Fall Term, what was the duration of your contract or appointment at this institution?

One academic term 1

One academic/calendar year 2

Two or more academic/calendar years . 3

Unspecified duration 4

Other (PLEASE SPECIFY BELOW) 5

____

12. Which of the following best describes your academic rank at this institution during the 1987 Fall Term?
(PLEASE CIRCLE ONE NUMBER)

Not applicable: no ranks designated at this institution . . . . 0 --> SKIP TO Q.14

Distinguished/Named Professor . . . 1

Professor 2

Associate Professor 3

Assistant Professor 4

Instructor 5

Lecturer 6

Other (PLEASE SPECIFY BELOW) 7

____

13. In what year did you first achieve this rank?
(PLEASE GIVE YOUR BEST ESTIMATE IF NOT SURE)

19____

14. During the 1987 Fall Term, did you hold any of the following kinds of appointments at this institution?
(PLEASE CIRCLE ALL THAT APPLY)

Acting 1

Affiliate or adjunct 2

Visiting 3

Assigned by religious order 4

No, none of the above 0

15. Have you ever achieved tenure at another institution?
(PLEASE CIRCLE ONE NUMBER AND SPECIFY THE YEAR TENURE FIRST ACHIEVED, IF APPLICABLE)

Yes 1
(YEAR FIRST ACHIEVED: 19____)

No 2

16. What is your principal field or discipline of teaching?
(PLEASE REFER TO THE LIST OF FIELDS OF STUDY ON PAGES 24-25 AND ENTER THE APPROPRIATE CODE NUMBER(S) BELOW)

Field code of my discipline: ______

17. Are any faculty at this institution legally represented by a union (or other association) for purposes of collective bargaining?

Yes 1
No . . . . 2 } SKIP TO Q.19
Don't know . . . . 9 }

18. Are you a member of the union (or other bargaining association) that represents faculty at this institution?

Yes 1
No 2

B. JOB SATISFACTION ISSUES

19. How satisfied or dissatisfied do *you personally* feel about each of the following aspects of your job at this institution?
(PLEASE CIRCLE ONE NUMBER FOR EACH ITEM)

	DISSATISFIED		SATISFIED		Does not
	Very	Somewhat	Somewhat	Very	apply
My work load	1	2	3	4	0
My job security	1	2	3	4	0
The authority I have to make decisions about what courses I teach	1	2	3	4	0
The authority I have to make decisions about content and methods in the courses I teach	1	2	3	4	0
The authority I have to make decisions about other (noninstructional) aspects of my job	1	2	3	4	0
The mix of teaching, research, administration, and service (as applicable) that I am required to do	1	2	3	4	0

(continued)

Satisfaction with your job at this institution: (continued)

	DISSATISFIED		SATISFIED		Does not
	Very	Somewhat	Somewhat	Very	apply
Opportunity for my advancement in rank at this institution	1	2	3	4	0
Time available for working with students as an advisor, mentor, etc.	1	2	3	4	0
Availability of support services and equipment (including clerical support, personal computers, etc.)	1	2	3	4	0
Freedom to do outside consulting	1	2	3	4	0
My salary	1	2	3	4	0
My benefits, generally	1	2	3	4	0
Overall reputation of the institution	1	2	3	4	0
Institutional mission or philosophy	1	2	3	4	0
Quality of leadership in my department/program	1	2	3	4	0
Quality of chief administrative officers at this campus	1	2	3	4	0
Quality of my colleagues in my department/program	1	2	3	4	0
Quality of faculty leadership (e.g., Academic Senate, Faculty Council) at this institution	1	2	3	4	0
Quality of union leadership at this institution	1	2	3	4	0
Relationship between administration and faculty at this institution	1	2	3	4	0
Interdepartmental cooperation at this institution	1	2	3	4	0
Spirit of cooperation among faculty at this institution	1	2	3	4	0
Quality of my research facilities and support	1	2	3	4	0
Quality of undergraduate students whom I have taught here	1	2	3	4	0

(continued)

Satisfaction with your job at this institution: (continued)

	DISSATISFIED		SATISFIED		Does not apply
	Very	Somewhat	Somewhat	Very	
Quality of graduate students whom I have taught here	1	2	3	4	0
Teaching assistance that I receive	1	2	3	4	0
Research assistance that I receive	1	2	3	4	0
Spouse employment opportunities in this geographic area	1	2	3	4	0
My job here, overall	1	2	3	4	0

20. During the next three years, how likely is it that you will leave this job to do the following?
(PLEASE CIRCLE ONE NUMBER FOR EACH ITEM)

	Not at all likely	Somewhat likely	Very likely
Retire	1	2	3
Seek or accept a (different) part-time job	1	2	3
Seek or accept a (different) full-time job	1	2	3

21. IF you were to leave this job to accept another position, would you want to do more, less, or about the same amount of each of the following as you currently do?
(PLEASE CIRCLE ONE NUMBER FOR EACH ITEM)

	I WOULD WANT TO DO:		
	More of this	Same amount of this as I do now	Less of this
Research	1	2	3
Teaching	1	2	3
Advising students	1	2	3
Service activities	1	2	3
Administration	1	2	3

22. IF you were to leave this job to accept another position, how important would each of the following be in your decision to accept another position?
(PLEASE CIRCLE ONE NUMBER FOR EACH ITEM)

	Not important	Somewhat important	Very important
Salary level	1	2	3
Tenure-track/tenured position	1	2	3
Job security	1	2	3
Opportunities for advancement	1	2	3
Benefits	1	2	3
No pressure to publish	1	2	3
Good research facilities and equipment	1	2	3
Good instructional facilities and equipment	1	2	3
Excellent students	1	2	3
Excellent colleagues	1	2	3
Institutional mission or philosophy that is compatible with my own views	1	2	3
Good job for my spouse	1	2	3
Good geographic location	1	2	3
Good housing	1	2	3
Good environment/schools for my children	1	2	3
A full-time position	1	2	3
A part-time position	1	2	3

23. *IF* you were to leave your current position, how likely is it that you would do so to:
(PLEASE CIRCLE ONE NUMBER FOR EACH ITEM)

	Not at all likely	Somewhat likely	Very likely
a. Return to school as a student	1	2	3
b. Accept employment in:			
doctoral granting university or college	1	2	3
other 4-year university or college	1	2	3
2-year postsecondary institution	1	2	3
less than 2-year postsecondary institution	1	2	3
elementary or secondary school	1	2	3
hospital or other health care organization	1	2	3
consulting, self-owned business, freelancing	1	2	3
foundation or other nonprofit organization	1	2	3
private sector for-profit business or industry	1	2	3
federal government (including military)	1	2	3
state or local government	1	2	3

24. At what age do you think you are most likely to stop teaching at a postsecondary institution?
(PLEASE CIRCLE ONE NUMBER)

Under 40	1
40 - 44	2
45 - 49	3
50 - 54	4
55 - 59	5
60 - 64	6
65 - 69	7
70 or older . .	8
Have no idea . .	9

25. At what age do you think you are most likely to retire from paid employment? *(PLEASE CIRCLE ONE NUMBER)*

Under 50	1
50 - 54	2
55 - 59	3
60 - 64	4
65 - 69	5
70 or older . .	6
Have no idea . .	9

C. ACADEMIC/PROFESSIONAL BACKGROUND

26. Please list below each collegiate and graduate degree that you hold, the name and location of the institution from which you received it, the year you received it, and the Field Code **(from pages 24-25)** that applies. *Please do not list honorary degrees.*

(PLEASE COMPLETE ALL COLUMNS FOR EACH DEGREE)

Codes for type of degree:

1	Certificate, diploma, or degree for completion of undergraduate program of at least 1 year but less than 2 years in length
2	Associate's degree or equivalent
3	Certificate, diploma, or degree for completion of undergraduate program of more than 2 years but less than 4 years in length
4	Bachelor's degree or equivalent
5	Graduate work not resulting in a degree
6	Master's degree or equivalent
7	Doctoral degree (Ph.D., Ed.D., etc.)
8	Professional degree (M.D., D.D.S., L.L.B., etc.)

Degree code	Year received	Field code	Name of institution	City and state/country of institution
______	19_____	_____	______________________	______________________
______	19_____	_____	______________________	______________________
______	19_____	_____	______________________	______________________
______	19_____	_____	______________________	______________________
______	19_____	_____	______________________	______________________
______	19_____	_____	______________________	______________________
______	19_____	_____	______________________	______________________

27. Which of the following undergraduate academic honors or awards, if any, did you receive?
(PLEASE CIRCLE ALL THAT APPLY)

National academic honor society, such as Phi Beta Kappa, Tau Beta Pi, or other field-specific national honor society	1
Cum laude or honors	2
Magna cum laude or high honors	3
Summa cum laude or highest honors	4
Other undergraduate academic achievement award	5
None of the above	0

28. When you were in graduate school, which of the following, if any, did you receive?
(PLEASE CIRCLE ALL THAT APPLY)

Doesn't apply: did not attend graduate school	0
Teaching assistantship	1
Research assistantship	2
Program or residence hall assistantship	3
Fellowship	4
Scholarship or traineeship	5
Grant	6
G.I. Bill or other veterans' financial aid	7
Loan	8
None of the above	9

29. For each of the jobs that you have held since graduating from college, please indicate in the table below the years that you began and left the job, the employment sector, your primary responsibility, and whether you were employed full-or part-time.

- *Please begin with your current job, and work backward.*
- *Do not list promotions in rank at your current job(s) as different jobs.*
- *Do not include temporary positions or work as a graduate assistant.*
- *Please list each job (other than promotions in rank) separately!*

(PLEASE COMPLETE ALL COLUMNS FOR EACH POSITION; SPECIFY EMPLOYMENT SECTOR AND PRIMARY RESPONSIBILITY CODES FROM THE LISTS ON THE FACING PAGE)

	Years job held		Employment sector	Primary responsibility	Full-time	Part-time
	From	To	(ENTER CODE)	(ENTER CODE)	(CIRCLE ONE)	
CURRENT JOB:	19______	present	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2
	19______	19______	______	______	1	2

CODES FOR QUESTION 29

Employment sector codes	
01	Graduate-level institution that is *not* part of a 4-year school (e.g., independent law school)
02	Doctoral granting university or college
03	Other 4-year college or university
04	2-year postsecondary institution
05	Less-than-2-year postsecondary institution
06	Elementary or secondary school
07	Hospital or other health care or clinical setting
08	Consulting, freelance work, or self-owned business in area directly related to my field at this institution
09	Consulting, freelance work, or self-owned business in area largely *un*related to my field at this institution
10	Foundation or other nonprofit organization
11	For-profit business or industry in the private sector
12	Federal government, including military
13	State or local government
14	Other (PLEASE SPECIFY BELOW)

Primary responsibility codes	
1	Teaching
2	Administration
3	Technical or research
4	Community/public service
5	Clinical services
6	Other

IF YOU HAD MORE THAN ONE JOB IN THE "OTHER" CATEGORY, PLEASE LIST SEPARATELY AND CODE EMPLOYMENT SECTORS AS "14a," "14b," ETC., IN Q.30.

(a)____________________________________

(b)____________________________________

(c)____________________________________

(d)____________________________________

30. About how many of each of the following have you presented/published/etc. during your entire career and just during the last 2 years? *For publications, please include works that have been accepted for publication.*

(PLEASE GIVE YOUR BEST ESTIMATES IF NOT SURE; IF NONE, CIRCLE "0")

0 No presentations/publications/etc.

	Number in past 2 years	Total during career
Articles or creative works published in refereed professional or trade journals		
Articles or creative works published in nonrefereed professional or trade journals		
Articles or creative works published in juried popular media		
Articles or creative works published in nonjuried popular media or in-house newsletters		
Published reviews of books, articles, or creative works		
Chapters in edited volumes		
Textbooks		
Other books		
Monographs		
Research or technical reports disseminated internally or to clients		
Presentations at conferences, workshops, etc.		
Exhibitions or performances in the fine or applied arts		
Patents or copyrights (excluding thesis or dissertation)		
Computer software products		

D. INSTITUTIONAL RESPONSIBILITIES AND WORKLOAD

31. During the 1987 Fall Term, how many graduate or undergraduate dissertations or theses, comprehensive exams, or orals committees did you chair or serve on at this institution? *(PLEASE ENTER A NUMBER IN EACH CATEGORY; IF NONE, ENTER "0")*

	Number served on but did not chair	Number chaired
Thesis or dissertation committees		
Comprehensive exams or orals committees (other than as part of thesis/dissertation committees)		

32. For each for-credit class or section that you taught at this institution during the 1987 Fall Term, please indicate below the number of hours per week that the class met; if the class was team taught, please indicate the average number of hours per week that you personally taught it. Next, please indicate the number and primary level of students enrolled; the class' primary setting; and the number of teaching assistants (TA's), readers, etc., who assisted you with the class.

Please do not include noncredit courses that you taught. Also, please do not include individualized instruction, such as independent study or individual (one-on-one) performance classes.

If you taught multiple sections of the same course, please count them as separate classes, but do not include the lab section of a course as a separate class.

Codes for primary level of students:

1 Lower division students (first or second year) in program leading to associate or bachelor's degree

2 Upper division students (juniors or seniors) in program leading to bachelor's degree

3 Graduate students (post-baccalaureate)

4 Students in program leading to certificate or award other than associate, bachelor's, or graduate degree

5 All other students

6 Any combination of the above

Codes for primary setting:

1 Lecture

2 Seminar, discussion group

3 Lab, clinic

4 Fieldwork, field trips

5 Role playing, simulation, or other performance (e.g., art, music, drama)

6 TV, radio, or other distance media

7 Any combination of the above

8 Other (PLEASE SPECIFY BELOW):

(a)____________________

(b)____________________

(c)____________________

Number of hours per week the class met	IF TEAM TAUGHT: Avg. # hours per week you taught the class	Number of students enrolled	Primary level of students (ENTER CODE)	Primary setting (ENTER CODE)	Number of TA's readers, etc.
______	______	______	______	______	______
______	______	______	______	______	______
______	______	______	______	______	______
______	______	______	______	______	______
______	______	______	______	______	______

33. For each type of student listed below, please indicate how many at this institution received individualized instruction from you during the 1987 Fall Term. Also indicate the total number of contact hours per week that you spent providing individualized instruction to each group.
(PLEASE GIVE YOUR BEST ESTIMATES IF NOT SURE; IF NONE, CIRCLE "0")

Provided no individualized instruction 0

Types of students at this institution	INDIVIDUALIZED INSTRUCTION Number of students	 Total contact hours per week
Lower division students (first or second year) in program leading to associate or bachelor's degree	________	________
Upper division students (juniors, seniors) in program leading to bachelor's degree	________	________
Graduate students (post-baccalaureate)	________	________
Students in program leading to certificate/award other than associate/bachelor's/graduate degree	________	________
All other students	________	________

34. During the 1987 Fall Term, were you a principal investigator or project director on any grants or contracts at this institution, including service contracts or internal awards?

Yes 1

No . . . . . 2 —> SKIP TO Q.36

35. For the grants and contracts for which you were a principal investigator (PI) during the 1987 Fall Term, please indicate below, by source, how many you had and their total dollar amount for the 1987-88 academic year.
If you were/are a principal investigator on a multiple-investigator project, please divide the total dollar amount by the number of PIs on the project.
(PLEASE GIVE YOUR BEST ESTIMATE FOR EACH SOURCE; IF NONE, ENTER "0")

Source of funding	Number of grants/contracts	Total funding for the 1987-88 academic year
Federal government	________	$____________
State or local government	________	$____________
Foundation or other nonprofit	________	$____________
For-profit business or industry in the private sector	________	$____________
This institution	________	$____________
Other source (PLEASE SPECIFY) ____________________	________	$____________

36. On the average, how many hours per week did you spend at each of the following kinds of work during the 1987 Fall Term?
(PLEASE GIVE YOUR BEST ESTIMATES IF NOT SURE)

	Average number hours per week during the 1987 Fall Term
All activities at this institution (teaching, research, administration, etc.)	________
Any other paid activities (e.g,. consulting, working on other jobs)	________
Unpaid (*pro bono*) professional service activities	________

37. Please estimate the percentage of your total working hours (i.e., the categories listed in Question 36) that you spent on each of the following activities during the 1987 Fall Term. *(PLEASE GIVE YOUR BEST ESTIMATES IF NOT SURE; IF NONE, ENTER "0")*

Note: The percentages you provide should sum to 100% of the total time you spent on professional activities.	Percent
Working with student organizations or intramural athletics	________
Teaching, advising, or supervising students (other than those activities covered in the above category)	________
Grading papers, preparing courses, developing new curricula, etc.	________
Administrative activities (including paperwork; staff supervision; serving on in-house committees, such as the academic senate; etc.)	________
Research; scholarship; preparing or reviewing articles or books; attending or preparing for professional meetings or conferences; etc.	________
Giving performances or exhibitions in the fine or applied arts, or speeches	________
Seeking outside funding (including proposal writing)	________
Taking courses, pursuing an advanced degree	________
Other professional development activities, such as practice or other activities to remain current in your field	________
Providing legal or medical services or psychological counseling to clients or patients	________
Outside consulting or freelance work, working at self-owned business	________
Paid or unpaid community or public service (civic, religious, etc.)	________
Other (PLEASE SPECIFY:) ________________________________	________
________________________________	________

We know that this is tedious, but please be sure that the above adds to **100%**

E . BENEFITS AND PROFESSIONAL DEVELOPMENT ACTIVITIES

38. During the 1987 Fall Term, were the following employee benefits available to you at this institution?
(PLEASE CIRCLE ONE NUMBER FOR EACH BENEFIT)

	AVAILABLE TO ME		
	Yes	No	Don't know
Free or subsidized wellness or health promotion program (e.g., fitness or smoking cessation program)	1	2	9
Paid maternity leave	1	2	9
Paid paternity leave	1	2	9
Subsidized medical insurance or medical care	1	2	9
Subsidized dental insurance or dental care	1	2	9
Subsidized disability insurance	1	2	9
Subsidized life insurance	1	2	9
Retirement plan to which institution makes contributions	1	2	9
Retirement plan to which you make contributions but the institution does not	1	2	9
Tuition remission/grants at this or other institutions for spouse	1	2	9
Tuition remission/grants at this or other institutions for children	1	2	9
Subsidized child care	1	2	9
Subsidized housing/mortgage	1	2	9

39. Listed below are some ways that institutions and departments may use internal funds for the professional development of faculty members.

- If a professional development activity was not available to you during the 1987 Fall Term, please circle the "Not Available" code
- If an activity was available to you at this institution during the 1987 Fall Term, please indicate how adequate to your needs the funds available for that purpose were.
- If you do not know whether an activity was available to you, please circle the "Don't Know" code.

(PLEASE CIRCLE ONE NUMBER FOR EACH ITEM)

Institutional or departmental funding for:	NOT available to me	AVAILABLE TO ME: INADEQUATE		AVAILABLE TO ME: ADEQUATE		Don't know if this was available
		Very	Somewhat	Somewhat	Very	
Tuition remission at this or other institutions	0	1	2	3	4	9
Professional association memberships	0	1	2	3	4	9
Registration fees, etc., for workshops, conferences, etc.	0	1	2	3	4	9
Professional travel	0	1	2	3	4	9
Training to improve research skills	0	1	2	3	4	9
Training to improve teaching skills	0	1	2	3	4	9
Retraining for fields in higher demand	0	1	2	3	4	9
Computer equipment	0	1	2	3	4	9

G. COMPENSATION

Note: Your responses on these and all other items in this questionnaire are STRICTLY CONFIDENTIAL, will be used only in statistical summaries, and will not be disclosed to your institution or to any individual or group. Furthermore, all information that would permit identification of individuals or institutions will be suppressed from the survey files.

40. For the calendar year 1987, please estimate your gross earnings before taxes from each of the sources listed below.

Please do not record any earnings in more than one category.

(PLEASE GIVE YOUR BEST ESTIMATES IF NOT SURE; IF NONE, ENTER "0")

Income from this institution:

Basic salary $__________

Other teaching at this institution not included in basic salary (e.g., for summer session) __________

Supplements not included in basic salary (for administration, research, coaching sports, etc.) __________

Non-monetary compensation (e.g., food, housing, car) *(Please give approximate value)* __________

Any other income from this institution __________

Income from other sources:

Employment at another academic institution __________

Legal or medical services or psychological counseling __________

Outside consulting, consulting business, or freelance work __________

Self-owned business (other than consulting) __________

Professional performances or exhibitions __________

Speaking fees, honoraria __________

Royalties or commissions __________

Any other employment __________

Non-monetary compensation (e.g., food, housing, car) *(Please give approximate value)* __________

Other sources of earned income (PLEASE SPECIFY:)

______________________________ __________

______________________________ __________

G. SOCIODEMOGRAPHIC CHARACTERISTICS

41. Your gender:

Male	1
Female	2

42. In what year were you born? 19______

43. Are you of Hispanic descent--for example, Mexican, Mexican-American, Chicano, Cuban, Puerto Rican, etc.?

Yes	1
No	2

44. What is your race? *(PLEASE CIRCLE ONE NUMBER)*

American Indian, Aleut, Eskimo	1
Asian or Pacific Islander (Japanese, Chinese, Filipino, Asian Indian, Korean, Vietnamese, Hawaiian, Guamanian, Samoan, other Asian)	2
Black	3
White	4
Other (PLEASE SPECIFY BELOW)	5

____

45. What is your current marital status? *(PLEASE CIRCLE ONE NUMBER)*

Single, never married	1
Married	2
Separated	3
Divorced	4
Widowed	5

46. Of what country are you currently a citizen?

USA	1
Other (PLEASE SPECIFY BELOW)	2

____

47. What is the highest level of formal education completed by your mother, your father, and your spouse? *(PLEASE CIRCLE ONE NUMBER FOR EACH PERSON)*

	Mother	Father	Spouse
Don't know/not applicable	0	0	0
Less than high school	1	1	1
High school diploma	2	2	2
Some college	3	3	3
Associate degree	4	4	4
Bachelor's degree	5	5	5
Master's degree	6	6	6
Doctorate or professional degree (e.g., PhD, MD, DVM, JD/LLB)	7	7	7
Other (PLEASE SPECIFY BELOW)	8	8	8

____

H. ACADEMIC INTERESTS AND VALUES

48. Please indicate the extent to which you agree or disagree with each of the following statements. *(PLEASE CIRCLE ONE NUMBER FOR EACH STATEMENT)*

	DISAGREE		AGREE	
	Strongly	Somewhat	Somewhat	Strongly
General issues:				
It is important for faculty to participate in governing their institutions.	1	2	3	4
Faculty promotions should be based at least in part on formal evaluations by students.	1	2	3	4
The tenure system in higher education should be preserved.	1	2	3	4
Teaching effectiveness should be the primary criterion for promotion of college faculty.	1	2	3	4
Research/publications should be the primary criterion for promotion of college faculty.	1	2	3	4
Faculty should be free to present in class any idea they consider relevant.	1	2	3	4
Collective bargaining is likely to bring overall higher salaries and improved benefits for faculty.	1	2	3	4

(continued)

	DISAGREE		AGREE		
	Strongly	Somewhat	Somewhat	Strongly	
Private consulting in areas directly related to a faculty member's field of research or teaching should be restricted.	1	2	3	4	
It is important to encourage students to consider a career in higher education.	1	2	3	4	
Institutional Issues:					
The administrative function is taking an increasingly heavy share of available resources at this institution.	1	2	3	4	
					Does not apply
At this institution, research is rewarded more than teaching.	1	2	3	4	0
Female faculty members are treated fairly at this institution.	1	2	3	4	0
Faculty who are members of racial or ethnic minorities are treated fairly at this institution.	1	2	3	4	0

49. Please indicate *your opinion* regarding whether each of the following has worsened, improved, or stayed the same in recent years.
(PLEASE CIRCLE ONE NUMBER FOR EACH ITEM)

	Worsened	Stayed the same	Improved	Have no idea
The quality of undergraduate students in higher education	1	2	3	9
The quality of graduate students in my field	1	2	3	9
The quality of students who choose to pursue academic careers in my field	1	2	3	9
The opportunities junior faculty have for advancement in my field	1	2	3	9
The professional competence of individuals entering my academic field	1	2	3	9
Respect for the academic profession, generally	1	2	3	9

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

Please return this completed questionnaire in the enclosed franked envelope to:
National Survey of Postsecondary Faculty
SRI International, P.O. Box 2124, Menlo Park, CA 94025-2124

CODES FOR MAJOR FIELDS OF STUDY AND ACADEMIC DISCIPLINES

AGRICULTURE

001	Agribusiness & Agricultural Production
002	Agricultural, Animal, Food, & Plant Sciences
003	Renewable Natural Resources, including Conservation, Fishing, & Forestry
004	Other Agriculture

ARCHITECTURE & ENVIRONMENTAL DESIGN

005	Architecture & Environmental Design
006	City, Community, & Regional Planning
007	Interior Design
008	Land Use Management and Reclamation
009	Other Arch. & Environmental Design

ART

010	Art History and Appreciation
011	Crafts
012	Dance
013	Design (other than Arch. or Interior)
014	Dramatic Arts
015	Film Arts
016	Fine Arts
017	Music
018	Music History and Appreciation
019	Other Visual & Performing Arts

BUSINESS

020	Accounting
021	Banking & Finance
022	Business Administration & Management
023	Business Administrative Support (e.g., Bookkeeping, Office Management, Secretarial)
024	Human Resources Development
025	Organizational Behavior
026	Marketing & Distribution
027	Other Business

COMMUNICATIONS

028	Advertising
029	Broadcasting and Journalism
030	Communications Research
031	Communication Technologies
032	Other Communications

COMPUTER SCIENCE

033	Computer & Information Sciences
034	Computer Programming
035	Data Processing
036	Systems Analysis
037	Other Computer Science

EDUCATION

038	Education, General
039	Basic Skills
040	Bilingual/Cross-cultural education
041	Curriculum & Instruction
042	Education Administration
043	Education Evaluation and Research
044	Educational Psychology
045	Special Education
046	Student Counseling & Personnel Svcs.
047	Other Education

Teacher Education

048	Pre-Elementary
049	Elementary
050	Secondary
051	Adult & Continuing
052	Other General Teacher Ed. Programs
053	Teacher Education in Specific Subjects

ENGINEERING

054	Engineering, General
055	Civil Engineering
056	Electrical, Electronics, & Communication Engineering
057	Mechanical Engineering
058	Other Engineering
059	Engineering-Related Technologies

ENGLISH AND LITERATURE

060	English, General
061	Composition and Creative Writing
062	American Literature
063	English Literature
064	Linguistics
065	Speech, Debate, & Forensics
066	English as a Second Language
067	English, Other

FOREIGN LANGUAGES

068	Chinese (Mandarin, Cantonese, or Other Chinese)
069	French
070	German
071	Italian
072	Latin
073	Japanese
074	Other Asian
075	Russian or Other Slavic
076	Spanish
077	Other Foreign Languages

CODES FOR MAJOR FIELDS OF STUDY AND ACADEMIC DISCIPLINES (continued)

	HEALTH SCIENCES
078	Allied Health Technologies & Services
079	Dentistry
080	Health Services Administration
081	Medicine, including Psychiatry
082	Nursing
083	Pharmacy
084	Public Health
085	Veterinary Medicine
086	Other Health Sciences
087	HOME ECONOMICS
088	INDUSTRIAL ARTS
089	LAW
090	LIBRARY & ARCHIVAL SCIENCES
	NATURAL SCIENCES
091	Life or Physical Sciences, General
092	Astronomy
093	Biology
094	Botany
095	Chemistry
096	Geological Sciences
097	Physics
098	Physiology
099	Zoology
100	Other Natural Sciences
101	MATHEMATICS & STATISTICS
102	MILITARY STUDIES
103	MULTI/INTERDISCIPLINARY STUDIES
104	PARKS & RECREATION
105	PHILOSOPHY, RELIGION, & THEOLOGY
106	PSYCHOLOGY
107	PROTECTIVE SERVICES (e.g., Criminal Justice, Fire Protection)
108	PUBLIC AFFAIRS (e.g., Community Services, Public Administration, Public Works, Social Work)
109	SCIENCE TECHNOLOGIES
	SOCIAL SCIENCES
110	Social Sciences, General
111	Anthropology
112	Archeology
113	Area & Ethnic Studies
114	Demography
115	Economics
116	Geography
117	History
118	International Relations
119	Political Science & Government
120	Sociology
121	Other Social Sciences
	VOCATIONAL TRAINING
	Construction Trades
122	Carpentry
123	Electrician
124	Plumbing
125	Other Construction Trades
	Consumer, Personal, & Misc. Services
126	Personal Services (e.g., Barbering, Cosmetology)
127	Other Consumer Services
	Mechanics and Repairers
128	Electrical & Electronics Equipment Repair
129	Heating, Air Conditioning, & Refrigeration Mechanics & Repairers
130	Vehicle & Mobile Equipment Mechanics & Repairers
131	Other Mechanics and Repairers
	Precision Production
132	Drafting
133	Graphic & Print Communications
134	Leatherworking and Upholstering
135	Precision Metal Work
136	Woodworking
137	Other Precision Production Work
	Transportation and Material Moving
138	Air Transportation (e.g., Piloting, Traffic Control, Flight Attendance, Aviation Management)
139	Land Vehicle & Equipment Operation
140	Water Transportation (e.g., Boat and Fishing Operations, Deep Water Diving, Marina Operations, Sailors and Deckhands)
141	Other Transportation and Material Moving
999	OTHER

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